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[Written for the Valley Farmer.]

Remarks on Liebig's "Letters on Modern Agriculture," &c.

By ROBERT PETER, M.D. Chemist to Geological Survey of Kentucky, &c.

"Letters on Modern Agriculture, by Baron Von Liebig. Edited by John Blyth, M.D. Professor Chemistry, Queen's College, Cork; with addenda, by a Practical Agriculturist, &c. New York, John Wiley, 1859. 12mo. pp. 275."

One of the objects of the present work of Liebig, is to show that the great efforts made by modern agriculturists, to secure large crops and great present profit from their land, result (because of the present imperfect system of culture) in a proportionably more rapid spoliation of the soil.

Were it true, according to the recent views of some of the leading chemists and agriculturists, that *Nitrogen*, which is present in immense quantity in the atmosphere, is the *essential element* of the soil and of manure which insured the production of crops; or that humus, which is also composed of abundant *atmospheric elements*, viz. carbon, oxygen and hydrogen, is, with nitrogen, an all-sufficient food for vegetables, and that the earthy materials of the soil acted mere-

ly mechanically or physically, in furnishing a soft penetrable medium in which their ramified roots could diffuse themselves, and by which moisture, air, gases, heat, and the decomposed remains of plants and animals (humus) are absorbed and retained for their use:—then, a system of husbandry which kept the soil sufficiently drained, and in a light condition favorable for the penetration of the tender rootlets and the absorption of airs and vapors, and gave it a proper amount of humus, would preserve forever the fertility of the land, however large and numerous the crops removed from it. On such a theory as this, modern husbandry in many places seems to be based. But the facts are widely different, and Liebig's peculiar merit, in his writings, is in forcibly exhibiting what had already been demonstrated by Carl Sprengel particularly, that the earthy materials, or mineral substances of the soil, do not act mechanically only, but that, on the contrary, certain mineral substances, fortunately for us contained in all soils, and, strange as it may appear, in most rocks also, on the surface of the globe, although generally in minute quantities, were just as essential to vegetable growth as the atmospheric elements above mentioned.

These mineral substances, of which we may mention potash, lime, magnesia, phosphates, sulphates, &c. &c. although required in smaller quantities than the atmospheric elements, carbon, hydrogen, oxygen, and nitrogen, are just as essential to the perfection of organic structure as these, and not the smallest microscopic plant or animal or the minutest cell of tissue could exist without a certain definite quantity of them.

These mineral elements, so called (found in the most fertile soil only in relatively small quantities), are, therefore, continually taken up by growing vegetables, and removed in crops, in quantities greater in proportion to the larger growth. They pass, in their food, into the bodies of animals, and are discharged in their excretions; and thus, when vegetable products or animals fed on them, are taken from the land, more or less of these essential elements are alienated from the soil, and it becomes gradual-

It deteriorated, however fine may have been the tilth—however careful the husbandry; until, in the end, the earth refuses to reward the labor spent on it, and is hopelessly sterile.

Ancient as well as modern agriculture, up to a very recent period, has taken little or no account of these facts. It is true that land, when the crops were continually removed from it, was observed to become more and more difficult to cultivate, and less and less able to repay by rich harvests the labor applied to it. Countries which produced and exported grain, tobacco, &c. abundantly, became sterile wastes in Europe, Africa, and even on our new continent: but the real cause of this serious injury was not fully studied or understood. Some virtue of the soil had departed—the land was sick—but no great physician told the impoverished farmer how to restore his exhausted fields. Yet something might have been learned by noting well the fact—that where the land was in the hands of small holders, who exported nothing, but consumed the products of their little farms on the soil which produced them, and thus unwittingly restored to it the mineral elements which had been taken from it by the crops—this exhaustion did not take place in a proportionate degree. In this manner the productiveness of the densely populated land in China is preserved, where the excretions of men and animals are regularly preserved, made articles of commerce, and restored to the soil:—because these excretions, solid and fluid, really contain these mineral elements which had been taken from the land in the vegetable or animal products which constituted their food,

But in countries where a large extent of territory is annually laid under contribution to supply great communities in large cities, and but a small proportion of the excreta is ever carried back again to the soil, most of it being lost in the drains and sewers, this deterioration of the soil is very evident and lamentable. Thus was it that ancient Rome made sterile the Campana and large tracts of fertile land in Sardinia, Sicily, and on the coast of Africa; and thus, in modern times, when railroad and canal facilities cause agricultural products to be carried thousands of miles from the place where they were grown, the essential elements of the soil are drained at a rapid rate from an enormous extent of country; and by modern improvements in agriculture, which aid in the production of large crops, the deterioration of the soil proceeds more quickly than it has ever done.

Klippart, Corresponding Secretary of the Ohio State Board of Agriculture, &c. &c. laments in his recently published work, "The Wheat Plant," as follows: "Several years ago I became aware of the fact, that wheat, the staple crop of Ohio, was annually diminishing in its yield per acre; that in less than fifty years the average product was reduced from thirty to less than fifteen bushels per acre!"

Numerous other writers, some quoted in the work of Liebig before us, bear the same melancholy testimony even in relation to the land in some of our youngest States—we will not take space at present to copy it.

During the examination of soils from various parts of Kentucky, by the writer, in the prosecution of the Geological Survey of that State, a comparison was made, by minute chemical analyses, between the composition of the virgin soil and that of some of the same locality which had been cultivated for a number of years; and in seventy-one cases out of seventy-nine the soil of the old field showed a marked diminution in the essential mineral elements.

Practical or empirical husbandry has been endeavoring, since the commencement of history, to solve the great problem, *How to maintain the fertility of the soil in culture.* Thousands of experiments in farm operations and manures have been made; and, to a certain extent, this empirical process has been crowned with success. Experience early taught the farmer to rest his fields; to give them a fallow; during which some of the valuable elements locked up in the harder particles of the soil were set free by slow disintegration, and the crop of weeds, by collecting from its depths the scanty nutritive materials, enriched the surface somewhat by their decay, so that larger crops of the useful products could subsequently be obtained. He learned by experience also to send from his farm only the more concentrated and valuable of its products; to raise green crops, with which to feed stock; to cultivate the deep-rooted clover, which would bring to the surface the valuable ingredients of the sub-soil; to carefully preserve all his straw for the litter of his animals, and return to the land all of the fertilizing materials he could thus accumulate as barn-yard manure. But even this, like the fallow system, whilst apparently keeping up the fertility of the soil, gradually and certainly exhausts it, if, after all, the crops of grain, or the animals of the farm or their products are annually exported from it.—The land is starved to death in the end by this system, whether crops be carried off from it without the application to it of any manures—or whether abundance of manures, *produced on the farm itself*, is annually applied to it to keep up its surface fertility: the difference being only one of time.

The writer was amused a short time since by noticing in the *Cosmos* of the Abbe Moigno, under the euphonious name of *Autophagie*, a new method, proposed to the French Academy of Science, by M. Le Docteur Anselmier, of retarding death by starvation, and of making it less painful; which consisted in opening the veins of the starving individual, and feeding him regularly on his own blood. Just such starvation is the cultivation of soil by means of manures made on the land itself, whilst valuable products containing a large amount of the essential mineral elements are annually exported from it.

When this system is so far improved as, in Flemish husbandry, to return to the land not only the manure from the barn-yard, but also that from the dwelling-house, the process of deterioration is greatly retarded. But experience has finally taught the farmer, who sells off from his farm his products, the advantage of applying to the soil fertilizing materials from other localities, such as lime, marl, sea-side

sand, shells, sea-weed, fish, wood-ashes, plaster of Paris, nitrate of soda, nitre, salts of ammonia, bone-dust or super-phosphates, guano, &c.; and by the judicious use of such articles as these, especially of the two latter, aided by improved processes of agriculture, England has, at a great expense, it is true, maintained the fertility of her fields, and even greatly increased her crops within the last fifty or sixty years. But besides the immense amount of bones, Chili saltpetre (nitrate of soda) &c. &c. imported into England for this purpose, we are told (*Cosmos*, January 13, 1860) that 5000 tons of guano are sold in England per week, at a medium price of 300 francs per ton—nearly sixty dollars.

By experiments in the field with these substances, as well as by many others on a smaller scale, by distinguished farmers, chemists, and physiologists, it has been fully demonstrated, that the elements found in the vegetable composition, whether the atmospheric elements or those of a fixed nature belonging to the soil, (although more of some is required than of others, and the proportions vary in different plants,) are *all* equally necessary and essential, and that in the absence of any one of them all the others become useless and, as it were, paralyzed in their action, until the missing element is supplied. Hence, the apparent great efficiency in some cases, of lime, plaster, bone-dust, ashes, &c. to some soils, and their seeming inertness in others. And, hence, the capability of production of a soil is limited by the quantity of the smallest proportion of any of its essential elements, however rich it may be in the remainder of these important substances.

Common sense has long since appreciated a fact, about the priority of the discovery of which some of the French savans have been making their *reclamations* in the *Academie des Sciences*, viz., that the fertility of a soil depends not only on the mere presence in it of the nutritive elements, but also on their being in an available condition. Modern science has been busy within the last fifty years in ascertaining what these essential elements are, and modern husbandry has aided much in showing how they are to be brought to that soluble condition, in which only they are available for the rapid growth of crops. It is found that many substances promote the growth of plants in two ways: First, By giving to them, elements necessary to their composition; and, Second, By acting as solvents to other elements which, without their aid, could not be available for vegetable nourishment. We may particularize water, carbonic acid, salts of ammonia, nitrates, humus, &c. all of which aid in the solution of the earthy phosphates, the carbonates of lime and magnesia, the oxides of iron and manganese, silica, &c.—This is one reason why so high a value has been attached to ammonia and its salts as fertilizers, because they not only yield the essential nitrogen, but render the phosphates and other earthy materials soluble in water. But most of the manures which contain ammonia, such as guano, urate, poudrette, &c. also contain the phosphates and other essential materials. Indeed, were the supply of good guano unlimited, and

the too great waste of the alkalies of the soil avoided, we need not fear the total exhaustion of the soil; for, at the worst, the profits of agriculture would be the excess of the price of the products of the land over the cost of the guano necessary to their production, added to that of the usual cost of labor and the interest of capital, &c. But the stores of this valuable fertilizer (which is usually deficient in no essential element but potash) are becoming rapidly exhausted, and the political economist who is convinced that the ordinary system of agriculture is one of spoliation of the land, must look forward to some other expedient than this to keep up its fertility, on which the very foundations of society are supported.

As no element in nature is ever destroyed, or really lost, it might seem, theoretically, that this might be a very easy matter. The atmospheric elements, carbon, hydrogen, oxygen, and nitrogen are, by known physical laws, constantly present everywhere on the surface of the earth, and need but little care on the part of the agriculturist, except to bring them to their most available condition; but the *fixed elements*—the mineral elements so called—which are carried off from the soil in the crops, are usually accumulated in and around cities, in the vaults and sewers, or drained off in the streams, to be finally lost in the ocean: and immense difficulties surround any effectual project for their restoration to the land. Yet the eye of the philosopher and the teachings of experience show us, that to some plan of this kind must we come in the end if we would avoid starvation; and it remains for practical men fully impressed with this great necessity, to show how it is to be done.

A very great prejudice exists in the public mind, in this country especially, against the use of such fertilizers on the garden or farm; but a little reflection would show that this is unreasonable. It has been in a great measure overcome in many parts of Europe, in some countries of which the contents of the privies are amongst the perquisites of the sovereigns; and in China (we quote from the work before us) “the estimation in which it [human excrement] is held is so great, that everybody knows the amount of excrements voided per man in a day, month, or year; and a Chinese would regard as a gross breach of manners the departure from his house of a guest who neglects to let him have that advantage to which he deems himself justly entitled in return for his hospitality. The value of the excrements of five people is estimated at two *Teu* per day, which makes 2000 *Cash** per annum, or about twenty hectolitres (440 gallons), at a price of seven florins.” The Chinese, accustomed to look on such matters only as objects of commerce and utility, never think of them as nuisances, and take no pains to disinfect them; but in this country any plan which contemplates the restoration to the land of the lost mineral elements by the preservation and use of these excretions, must include some effectual mode of deodorization. Perhaps by the use of such antiseptics as the simple and cheap one lately employed with much success

*100 *Cash* are equal to about 4½d.—about eight cents.

in the hospitals of Paris, viz. an intimate mixture of two to four per cent. of coal tar with ground plaster of Paris, the prejudice may be overcome, and a regular commencement be made of a system of commerce by which the lands which have been impoverished to feed the cities, shall be renovated by that, to remove which now constitutes one of their greatest embarrassments. This commencement ought to be made before the land becomes so much impoverished that its renovation would cost more than the price of new land at a convenient distance from the city. The ocean has already swallowed up too much of the richness of the soil, on which it has only given us back a scanty interest, in the shape of guano, &c.; but in view of the great popular prejudice in this relation, and the present low price of new land, such a plan is not likely to become general or effectual until a dense population and a scarcity of new land on our broad continent shall oblige the people to study the true philosophy of agriculture.

In forcibly presenting views of this nature to the agriculturists of Europe and of the world, in the little work before us, Liebig has performed the office of a faithful monitor: whether his advice will be regarded remains to be seen.—Like most of his writings this contains, unfortunately, certain crudities and dogmatical statements, which will excite controversy and tend to excite prejudice against it, which will somewhat diminish its utility. We may mention: First, His emphatic assertion, that vegetable food is *not in solution*, when it is absorbed by plants, but that the mineral elements are absorbed, particle by particle, by the rootlets in immediate contact with them in the soil. Now if this were true, we cannot see the reason why plants cannot grow almost as well during a drought as when the ground is moistened by genial rains. Because, the soil, by its great power of absorption, can remove dissolved phosphates and other materials from water which is filtered through it—is no more a reason why it may not give up some of these absorbed substances to water containing carbonic acid, ammonia, or humus, than the rapid absorption by it of the *heat of the sun* or the *moisture of the atmosphere* should lead us to conclude that heat and moisture could not pass off from it again. We have no space for an argument on this topic; but we *know*, from actual experiment on no less than 375 different soils, treated by prolonged digestion, at the summer temperature, in water containing carbonic acid, that not only did the soil, in every instance, give up notable quantities of its essential elements to this solvent (which is similar in nature to atmospheric water penetrating the soil), but that in some cases, as in virgin prairie soil, rich in humus, and containing but a small proportion of alumina, the quantity of soluble matters extracted by the carbonated water, weighed after it was dried at the boiling heat of water, amounted to nearly 2 per cent. of the soil (1.7 and 1.6 per cent.); whilst in few cases was it as little as the tenth of one per cent. of the weight of the soil. And that the extract contains, it is true, much car-

bonates of lime and magnesia, but also much phosphates, sulphates, alkalies, silica, organic matters, &c. To assert, then, as Liebig does, positively, in the work in hand, that water does not dissolve out the essential elements of the soil; that the drainage water does not contain any notable quantities of them; that land plants differ from water plants, because they do not take their nourishment in the state of solution, &c. is, in our humble opinion to travel not a little out of the record.

The tendency of this work, like that of all the writings of this author, is to good and towards improvement. It will excite controversy, as they all have done; but the collision of ideas, and the experiments instituted with a view to sustain or upset the peculiar views of the controversialists, may end in the establishment of truth in the *theory*, and improvement in the *practice* of agriculture. In this country we have *less* to hope for in this respect than in Europe, in one sense, because new lands are so cheap; but *more*, in another sense, because our farming population is generally more enlightened, and more open to conviction and improvement than the husbandmen of the old countries: but even here a great reform is necessary, and the better education of our youths, who are destined for the profession of agriculture, is loudly called for.—It is indeed a great political want, as on the productiveness of the soil intimately depends the prosperity of the nation. At present it is rare to find a farmer who by his education is competent to read and understand the works of Liebig and of similar authors on agricultural chemistry—although it is now clearly demonstrable that by the teachings of modern science, aided by enlightened practical experience, must come all real improvements in the theory of agriculture.

Let us hope that States, societies and other communities, will take hold of this energetically, and that the farmer be induced to undergo some other training for his useful profession, besides the ordinary mechanical one.

PROFITS OF IMPROVED FARMING.—In a lecture on Sewage, delivered by Alderman Mecchi, the great English farmer, before the Farmers' Club, referring to his own labors in the way of improved farming, he said:

"For the last six years my gain as landlord and tenant on my little farm of 170 acres has been nearly \$3,500 per annum. Even this year, with wheat at 42s. per quarter, I have gained \$3,000, after paying every expense. Of course, much of this gain has arisen from *steam-power, drainage, deep cultivation, and other improvements*; but the *liquefied-manure system* has greatly contributed to this result."

Why do wood ashes make hard water soft?
 1. Because the carbonic acid of wood ashes combines with the sulphate of lime in the hard water, and converts it into chalk. 2. Wood ashes converts some of the soluble salts of water into insoluble, and throws them down as sediment, by which the water remains more pure.

BARNs AND BARN-YARDS.

It may be safely asserted that no farm is complete without the appendages of a barn and barn-yard; and when we say barn-yard, we do not intend to be understood as merely alluding to a lot or inclosure around or on one side of the stable—perhaps upon a side hill from which all of the essential portions of the manure are washed away by every rain that falls.

Without a barn and properly constructed yard, no farm, however small, can be kept up in its productive capacity. Without manure, and without adequate arrangements to preserve and increase the manure heap, the great source of successful farming is cut off. One of the great objects in keeping stock, should be the manufacture of the straw and other refuse matter on the farm into manure, for there is a mutual dependence existing upon the farm between the manure heap, the crops grown, and the stock fed.

The size, style and character of the barn should be governed by the extent of the farm, the situation it is to occupy, and the kind of stock to be kept: each of these may be complete in their kind. Upon a small farm, where but the necessary teams are to be kept, with only so many cows as are required to furnish milk and butter for the family, a small barn will answer the purpose. Upon a farm of more acres, where stock raising, dairying, &c. constitute a leading business of the farm, the size and arrangement should be considered accordingly; and next the character of the location must govern the construction and arrangement of the barn. The most convenient arrangement for a stock barn is upon a side hill where the hay and grain may be carted in upon the upper story and pitched into the bays below. This arrangement saves a great amount of labor in hauling the feed for the stock. Another advantage of a side hill barn is, the manure may be deposited in a cellar below, where the whole of the liquid portion can be saved, and where the whole can undergo a degree of fermentation before it is exposed to the washing rains and the weather outside. Upon the lower side, too, the cellar can be approached with the team and carts, and material added to the manure heap to absorb the urine and add to the general stock, or to render the whole easy of access for hauling away.

A barn thus arranged not only saves a great amount of labor in hauling the hay, &c., in stacking and feeding, but the quality is greatly preserved by being housed at once after it is cured. Add to these advantages the still more important consideration—the comfort and

thrift secured to the animals in consequence of the protection afforded from the storms of winter, and it will be found that no more profitable investment can be made connected with the farm than in the construction of a suitable barn.

Where the face of the country is so level that a suitable elevation cannot be secured for a side hill barn, the next best arrangement must be adopted, constructing the bays and other departments in such a way as admit of storing the forage and feeding it out to the stock with the least possible labor.

Next in importance to a good barn is a properly arranged barn-yard. This should embrace the south side of the barn. If sheds or wings are to be attached to the barn they should extend on the east and west sides, facing the south. In front of these should be the yard, the size of which should be governed by the extent of the farm and the number of animals to be kept.—It should be excavated, forming a basin twelve inches or two feet deep, sloping from the sides to the centre, so that the drainage from the manure can not run off and go to waste. With care, and a little labor in hauling into this basin the straw and other refuse matter on the farm and this incorporated with the manure from the stables, a large quantity of manure may be annually made. The quantity can be greatly increased by adding peat, if any is to be had upon the farm; or even the leaves and rich compost from the fence corners, with chips from the wood pile, and similar materials may be gathered up and added with advantage and profit.

Nothing contributes more to the appearance of thrift and prosperity of a farm than a neatly arranged barn, tool house, and a well-filled yard of manure.

There are several published works on rural architecture, including barns and all the out-buildings for a farm. Allen's Farm Buildings, is a work that affords plans of almost every style, adapted to level ground, to side hills, and for large and small farms, from which a plan may be selected to suit almost all tastes and circumstances.

Barns of small dimensions may be constructed on the plan described in a former number of the *Valley Farmer* at very little cost; and these may be built by ordinary farm hands of moderate mechanical ability.

••• **To TAKE RUST OUT OF STEEL.**—Cover the steel with sweet oil, well rubbed on. In forty-eight hours rub with finely powdered unslacked lime, until the rust disappears.

Some Curious Facts in Regard to Timber Trees.

Every person who has lived long upon the Western prairies and observed the decline in strength and vigor of the wild grass under the combined causes connected with the settlement of these lands, has noticed that various kinds of timber trees will spring up where none of the kind were known within many miles before. How they originated, or where the seeds came from, or how they came there, some who are "wise above that which is written" attempt to explain, yet these explanations are not altogether satisfactory to every mind.

We are pleased to see the subject alluded to by Prof. J. Brainard in a paper read before the Cleveland Academy of Natural Sciences, Dec. 30, 1859. We cannot find room for the paper entire, but will furnish our readers with some extracts from it. He introduces the subject by saying that:—

"There is one phenomenon, in regard to the growth, or *apparent* spontaneous production of timber trees, upon the Western prairies, which I have never been able to understand; a phenomenon, too, that is not confined to any particular locality, or to any particular kind of growth. And what I may now offer upon the subject is done in a spirit of inquiry, and not with the idea of advancing any theory upon the subject; for the question involves the unpopular doctrine of spontaneous development.

"Although I am not an advocate of this view, but, on the contrary, have held that every plant that grows must have its proper or specific *germ cell*, which determines its class, genera and species, I must confess that there are some points in regard to the subject above named, that, upon the popular hypothesis, are wholly inexplicable."

After alluding to the fungi and other more perfect plants having small seed, which it may be claimed float in the atmosphere, or may be transported on the wings of the wind, he continues;—

"And another question presents itself here for consideration. How long the embryo of an oily, starchy or albuminous seed retains its vital powers, when constantly exposed to all the vicissitudes of warmth, air and moisture? We must, if we set aside the doctrine of equivocal growth, admit that its powers of vitality remain unimpaired for an *indefinite* period of time, and the agencies usually destructive to organic bodies, as intense heat, greatly aid in the development of the embryo." * * *

"Recently in passing through Central and Southern Illinois, I observed extensive groves of hickory, sometimes comprising several hundred acres, and apparently having an age of from three to five years. The question arises, in my mind, from whence came the seeds that produced this young forest? There can be found

no trees of this kind bearing fruit, within the circumference of many miles. It has been suggested by some, that squirrels, in their migrations, from their natural instinct, and solicitude for the future, have planted the nuts. If this is true, *it reflects no great credit upon the human emigrants to this desolate region, for very few have followed the example, even of planting shade trees around their dwellings.*

"Another fact is worthy of observation. When the oak, hickory, or hazel first make their appearance, the *most careful search has failed to discover the least trace of the hard or stony envelope of the embryo*. It cannot be said that these heavy seeds have been borne upon the wind from the place of their growth, as may be the case with lighter seeds; nor that they have lain dormant, deep buried in the soil: for, in all cases, an examination of the descending axis reveals the fact, that the axis of growth is at the very surface of the soil, or, at most, not to exceed an inch below it.

"Along the whole line of the Chicago and Alton Railroad, wherever the soil has been disturbed, the Willow (*Salix nigra*), Sycamore (*Platanus occidentalis*), and Cottonwood (*Populus angulata*), make their appearance generally within a year after throwing up the soil.

"In pursuance of these investigations, we are almost unconsciously led to the conclusion, that *creative energy is now as actively at work as it has been at any former period in the earth's history*.—Neither does this doctrine contravene the laws of science, or the fiat of the Creator when he said, 'Let the earth bring forth grass; the herb yielding seed, and the fruit tree yielding fruit after his kind, whose seed is in itself upon the earth.'

"That the work of creation has been of a progressive character, we have now the undisputed testimony of the rocks, which form the stratified crust of the earth, and we cannot say that the same agency that produced the first forest of timber trees is not as potent and active to-day as it was at the commencement of tertiary epoch."*

* On a former occasion, in alluding to this subject, and in expressing the same views, sustained by similar arguments, we were not only misinterpreted, but misrepresented by a cotemporary, whose limited views, hampered by popular prejudices, have never enabled him to look beyond the mere surface of things: in his attempted criticisms, he reminds us of the animal that eats the nuts that fall from the tree but never looks from whence they come. It is hardly thirty years since those who presented the now universally admitted geological facts were denounced as infidels, because they dared to assume that the world had existed more than six thousand years.

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One great secret of the speed of "Flora Temple" has been discovered. It has been found by measurement, that her stride—small as the animal herself is—is "equal to that of a sixteen hand horse." She wins by her long, low locomotive style of going, which works with the saving exactitude of machinery, and wastes no power in unnecessary action, or in what is more graphically termed "style."

Spontaneous Combustion of Sawdust.

We have before alluded to the frequent occurrence of fires, that can only be accounted for on the principle of spontaneous combustion. Many of the most disastrous fires that have occurred in the United States, and suspected to be the work of incendiaries, have undoubtedly originated in this way. As these accidents, from this cause are liable to occur in every family, as well as in the various manufacturing establishments, we deem it due to our readers to afford them all the light possible as to the liability of such disasters, from causes so little suspected.

Some time near the close of the year 1858, the large Mechanical Bakery, erected in the city of Boston, Mass. and just completed at a cost of many thousand dollars, took fire and was consumed. The fire could be traced to no known cause, except the work of an incendiary. More recent investigations seem to establish, almost beyond a doubt, that the fire was the result of spontaneous combustion.

In a late number of the *Boston Journal*, appears a letter from E. N. Horsford, Professor of Chemistry, at Cambridge, Mass. on the spontaneous combustion of sawdust containing oil, by which it is supposed the Mechanical Bakery in Boston was burned down. We make the following extracts from the letter:

"In a communication under date of Feb. 28th, the writer presented to your readers an argument in favor of the theory of spontaneous combustion, as a source of the fire which destroyed the Mechanical Bakery. Not the least of the considerations which led to the communication, was the wish to relieve the minds of the parties interested from the suspicion that the fire was the work of an incendiary. At the time the argument seemed to the writer sufficiently sound. It required (what was suggested in a concluding paragraph) an experiment where the circumstances of temperature, time, &c. should be as nearly like those in the Mechanical Bakery as might be. The production of all the conditions in a parallel experiment was not an easy matter, and has not been attempted by the writer. But the experiment, even, has been rendered unnecessary by actual occurrences. The writer has learned that a machinist of experience, has, in repeated instances, observed the spontaneous combustion of boxes of sawdust saturated with oil, in half an hour after they were taken down and broken out of doors. The difference between the facts witnessed by him and what it is conceived occurred in the bakery, are these: In his case, the sawdust had been long in use, and having become no longer serviceable as an absorbent, was broken up and more perfectly exposed to the air. In the bakery the sawdust had been but a short time in use, and was still quite porous. In the case of the bakery the heat of the atmosphere about the box of sawdust,

and of course of the sawdust itself, as well as the air within it, was high. In the other case it is probable that the heat from without was much lower. It is conceivable that the heat from without, in the one case, was quite an equivalent for the more perfect saturation and more thorough disintegration in the other.

"In addition to the experience of the machinist above mentioned, and this result of experiment in confirmation of the suggestion in the communication of February last, the writer has translated and presents the following extract from a recent report of Professor Bolling, of Prague, published in the April number of the *Polytechnisches Centralblatt*. A case of inexplicable conflagration had been submitted to the learned Professor by the authorities of the city. A velvet factory had been repeatedly burned to the ground under circumstances precluding suspicion either of carelessness or intentional firing. The report says: 'It is a well known fact that fatty oils exposed to the air absorb oxygen, and become more or less heated. The greater the surface with which the air comes in contact, the greater is the absorption of oxygen and the greater the heat produced, until, at length, such is the increase of temperature, that spontaneous combustion of the body saturated with oil takes place. By employing new oil, and by warming from without, the inflammable condition is expedited, and the burning made more violent.—In this way many conflagrations have already taken place, especially in woolen spinneries, in which the spun wool previously charged with oil was gathered in heaps, and where the waste wool was left in baskets. The same has occurred in carpenters' shops, where, in polishing furniture, the surface is first saturated with oil, and the excess rubbed off with shavings. The shavings absorb the surplus oil, and where remaining in piles spontaneously take fire.' The report goes on to say that, in view of these considerations, there is nothing now in the case of conflagration before them; and it closes with instructions, obviously suggested by the facts presented, that where it is necessary to saturate with oil bodies like sawdust, shavings, cotton or woolen waste, care should be taken to avoid accumulation in heaps."

From these facts, and numerous others of a similar character that are daily coming to light, persons engaged in almost all the avocations in life cannot be too careful of the combination of such bodies as are susceptible of spontaneous combustion. By a want of knowledge of these facts, or by disregarding them, the accumulated wealth of years of labor and toil may be consumed in an hour.

 See that your stock have an abundance of clear, good water, this hot weather—they suffer severely without. Salt should always be standing in boxes or troughs, so that stock can have access to it. Select, if possible, fields with plenty of shade trees in them to protect them from the burning sun. Pastures should always contain shade trees—and they should be planted if not there.

Some of the Benefits of Draining.

In traveling over various portions of the country, it is gratifying to observe the progress that is making in land draining. It is hardly ten years since more than three or four farms in the United States had a drain tile on them; now we seldom visit a well managed farm of heavy soil, in any of the older States, that is not drained; and the manufacturers of tile in all the places where the business has been started, are now unable to supply the demand for them.

In an article on Draining, the *Country Gentleman*, in speaking of some of its benefits, says: One beneficial result claimed for thorough drainage is that "it lengthens the season of labor and vegetation"—an "extension" which the crops and the farmer need as often as the customer of banks and brokers. That the time required for the "settling of the soil," after the winter frosts pass from it, depends to a great extent upon its porous or its retentive character, is everywhere known and conceded. The deep gravelly loam is seen to be very soon free from water, while the heavy clay requires a long time to become fit for cultivation. In one case the soil is fully drained, and in the other the water mostly passes off by the slow process of evaporation. Thorough drainage of the heavy soil renders both alike in this respect, and thus adds from ten to fifteen days to the time of preparation for seeding—giving the same increased time for the growth of the crops to which the land is devoted.

Gradual Diminution of Rainfall in England and Scotland.

In the January number of the *Valley Farmer* for 1859 we gave an article on the annual diminution of the fall of rain in the United States, the cause, and the probable effects upon the agricultural interests of the country, &c. In England the annual fall of rain, in inches, is probably one-half less than it is in the United States, yet in England there are at least one-third more rainy days in a year than there are in the United States. But in the former country it only rains while in this country it often pours. The causes that produce this effect in this country have been, comparatively, but a few years in operation, while in England and Scotland they have been for centuries. These changes are so marked and the results so important that the Scottish Meteorological Society offer a reward of £20 (\$100) for the best essay on the following questions: 1. Whether the amount of rainfall

in the Western part of Europe, and particularly in Scotland, is less now than it formerly was. 2. Assuming this fact to be established, what are the most probable causes of it? With reference to the first of these questions, the Secretary of the Society, A. Keath Johnson, says:

"Notice may be taken of the popular belief that springs of water have been gradually diminishing, or altogether drying up, especially in arable districts; and the following statement in the report of the Register-General for England, for the quarter ending June, 1859:—'The deficiency in the fall of rain from the beginning of the year is $1\frac{1}{2}$ inch. The deficiency in the years 1854, 1855, 1856, 1857, 1858, amounting to the average fall of one year, viz, 25 inches. From a careful examination of the fall of rain (year by year) from the year 1815, it would seem that the annual fall is becoming smaller, and that there is but little probability that the large deficiency will be made up by excess in future years.' With reference to the second question, notice may be taken of the supposed effects of deep drainage and deep culture of the soil in raising the temperature both of soil and atmosphere, in lessening evaporation, and diminishing the condensation of vapor."

This is not only an interesting but an important subject for investigation, and we hope that we may chance to meet with a copy of the prize essay when it is published, that we may compare the views with those we have expressed.

TEA GROWING IN AMERICA.

It will be remembered that the United States Government employed Mr. Fortune, of England, to go to China to procure seeds of the tea plant for the purpose of experimenting on its culture in this country. Large quantities of the seeds were obtained and sent home in boxes of earth, and reached our shores some time last year. They were received at the public grounds and greenhouses at Washington, where the young plants were cared for until the proper time for sending them into the various sections of the country where they were to be permanently planted. About 18,000 of the young plants have been sent into the different Congressional Districts south of Virginia and Kentucky: that portion of our country is supposed to be the most favorable to the cultivation of the plant. The consignment of a sufficient number of plants to occupy a few square rods of ground has been made to some intelligent and responsible person, selected with the assistance of the Congressional representative of the district. It is supposed that the plant cannot be cultivated in the open air north of the Northern boundary of North Carolina and Tennessee, but must be protected in heated conservatories and green

houses during the winter. About 8,000 plants have been distributed among from fifty to one hundred persons in the States respectively north of the line of the States named, for the gratification of the taste and curiosity of the public.

We have no doubt that the climate of the Southern States of the Union is as well adapted to the perfect development of the tea plant as is that of the most favored portions of China. This has proved the case with the mulberry and the silk-worm; and the ingenuity of our people has enabled them to succeed in the production of silk in larger quantity and in quality superior to the best productions of Italy and China: but we lack the cheap labor in the United States to enable us to carry the business on successfully. So it will be with the preparation of tea. Labor in China can be procured at less than one-tenth of what it can be procured in this country. The manipulation of the tea leaf and the process of curing ready for market is a tedious operation, one in which our people, even the most humble, will not engage for twice the price at which tea sells in this country. We are glad, nevertheless, to see the experiment made of the culture of this plant. Our population is rapidly on the increase, and the time will come when both tea and silk will be important productions of this continent.

LIGHTNING CONDUCTORS.

J. S. T. of Kentucky—If you will refer to the May and June numbers of the *Valley Farmer* for 1859, and in some subsequent numbers, you will find your questions fully answered; but as you may not have been a subscriber at that time we will state that the *efficiency of a lightning conductor is just in proportion to the solid section of the metal employed*. Although this point has been questioned by some writers, yet it is now conceded by the best electricians, at the head of whom stands the celebrated Professor Faraday, that this fact, which we have always maintained, is correct; so that the light and flimsy things which are hawked about the country under the name of "patent lightning rods," by itinerant agents, are worse than no conductors; for these, put up as they generally are, serve in many cases only to attract the electric fluid to the building, while its conducting capacity is entirely insufficient to convey the electricity from a fully charged cloud to the earth without an explosion. Many of the *patents*, by which the public are deceived, only apply to some peculiar mode of uniting the rods, or of insulation, which are neither as safe nor as cheap as the plans we formerly published, which are free to all. The patent, twisted, sheet

capped conductor is only another means employed to gull those who know no better, for it matters not how broad the surface of the metal employed may be, it adds not one jot to the conducting capacity of the rod beyond the *solid area of the metal employed*. In every instance, so far as we have been able to inquire, where buildings have been struck by lightning, having conductors on them, it has proved that the rods were those cheap patent affairs, put up by traveling agents, who have no knowledge of the laws of electricity.*

For an ordinary sized dwelling or barn a rod $\frac{1}{4}$ of an inch in diameter should be used—never less. A simple, well fitted cap of three inches long, held together with rivets or screws, with a ring or clasp over the whole an inch long, forms a better joint than any of the patent joints with nuts and screws. For insulation some kind of hard wood well baked and put up in the form of braces from the building to the rod, say one foot distant, are by far safer than the common glass insulators or anything else that has yet been employed. But above all let the rod extend into the ground to a depth below which it never dries, or what is better into a cistern or well of water. If the rod terminates in the ground it should be in a slanting direction from the building.

* Last summer we were in the neighborhood where a house was struck by lightning, and two of its inmates instantly killed. On inquiry into the character of the rod put upon the house we found, as in several other similar instances of explosion in the same county, that these worthless rods were used.

Tile Draining—Cost of Tile, &c.

A correspondent (C. N. M. of Todd Co. Ky.) wishing to engage in orchard and vineyard culture, and to thoroughly prepare his land by draining, &c. inquires, Where tiles may be had, the cost per thousand? &c.

Land draining constitutes one of the most important steps in the progress of agricultural improvement in the United States. Until recently it has made but slow progress. But since a few enterprising farmers, who learned its advantages in England and Scotland, have adopted the system in this country with the most marked success, hundreds of our native farmers are availing themselves of its benefits and are establishing tile works in almost every section of the country.

There are but few sections of country where tile can be transported long distances to advantage. They are bulky and heavy and are liable to considerable loss from breakage in handling. At the commencement of this system of im-

provement, persons living near the rivers and railroads where tile could be shipped at moderate cost, would sometimes order them from a distance, but as soon as a trial was fairly made in a neighborhood, tile machines were bought and the manufacture of tile commenced where they were to be used: the farmers of the neighborhood falling in with the business, the manufacture of the tile soon becomes profitable. Extensive draining can only be done to advantage by making the tile on or near the spot where they are to be used. There are now a good variety of tile machines manufactured in different parts of the United States. The price of these varies from \$120 to \$300, more or less. They are worked by hand or other power, and are capable of turning out a number of thousand pieces a-day. These are dried on shelves under a shed, and burned in a kiln much as brick are burned.

Tiles are made in various parts of Ohio and Indiana. The nearest point to our correspondent at which they are manufactured, is New Albany, Indiana. Mr. Thomas H. Collins of that place has been for two or three years engaged in the business, and has underdrained his entire farm, and has since sold out his works. A letter addressed to him on the subject will receive due attention, giving the names of the present manufacturers.

The prices of drain tile at the Eastern works are 12, 15, 18, 20, and 40 dollars per thousand pieces, each fourteen inches long.

Those at \$12 are 2, and $2\frac{1}{2}$ inches calibre; increasing in price according to size; \$40 per thousand for those of five and a half inch calibre. Persons intending to engage in the business of land draining would do well to purchase books on the subject, entitled *Munn's Practical Land Drainer, or Farm Drainage* by French. Published by C. M. Saxton, Barker & Co. New York, and for sale at the Agricultural book stores generally.

We intend giving some chapters on practical land draining as soon as our readers generally become a little awake to the subject, having ourselves made some experiments in engineering the past season; for the encouragement of the system among the farmers, we will at least give the result of our own operations, which promise the most satisfactory results.

Why is it more easy to wash with soft water than with hard? Because soft water unites freely with soap, and dissolves it instead of decomposing it as hard water does.

[Written for the Valley Farmer.]

Vandiver's Union Corn Planter.

Knowing that whatever is of importance to the farming interest of our great Mississippi Valley, will readily find a place in your valuable paper and be perused with interest by your many readers, I beg leave to offer the following:

About eighteen months ago, John W. Vandiver, of our county, secured a patent on a Corn Planter, the successful operation of which, with its vast importance to the corn raisers of our country, I wish to bring more particularly before the agricultural public. In this day of patents, when there are so many impositions on those who are ready to catch at everything new, many persons look with suspicion on *all*, and refuse even to make the necessary tests: this should not be the case. We must acknowledge that where some of the many patents are worthless, others possess genuine merit, and should be properly appreciated by those who receive the benefit of the invention. To reject all, because a part are proven useless, would be to throw a damper over the active, inventive genius of our improving and go-ahead country. Let us then as men of judgment and sound practical reasoning, fully test what may come before us as improvements; and after doing so, be ever ready to award credit to whom credit is due.

This Valley is the great corn-growing portion of the world. Corn bears the same relation to our products that cotton does to those of the South. With these facts before us, we cannot fail to be deeply interested in anything that will materially enhance the production of this staple crop.

Vandiver has been manufacturing his Planters two seasons, and by great labor and experience is now ready to bring before the people an unequalled Corn Planter, one that will put in more corn in the same length of time, than eight hands in the ordinary way, and will do it far better; with only one hand to drive, a boy to operate, and two horses to draw the machine. Many machines have been gotten up that perform well on a perfect plane, or in smooth ground only; but this has been invented by a strictly practical farmer—as each thought was suggested, it was tested in common corn ground, and is consequently adapted to all conditions of land free from stumps. It lays off, drops, covers, and rolls two rows at once, in check rows or drills, and will plant from fifteen to twenty acres in a day.

The test to which this planter was subjected the past and present seasons (the former being wet, and the latter exceedingly dry), has satisfied every one in neighborhoods where used, that corn planted with it came up better, under all circumstances, than where it was planted in the usual way.

I have thoroughly tried this planter in sod, and can say it will plant sod well and as fast as old ground. I never saw corn come up quicker or more regular than forty acres of sod I planted with it last year. To estimate the value of this machine, you must take into consideration the rapidity with which you can get in your crop, and then contrast a good stand with a bad

one; for the experience of all successful corn raisers goes to prove that more depends on getting a good stand than anything else. You can deposit the corn from one to six inches to suit the season; and every hill will come up within a day of each other, which makes the growth very even and regular. The interest I feel in common with other farmers has induced me to submit the foregoing to your consideration, and hoping you may give it place, if you deem it worthy,

I am yours respectfully,
SHELBY.

Shelbyville, Mo. June 5th, 1860.

THE FARMER ON HIS FEET.

NUMBER THREE.

He Should Value His Independence.

I hope I shall be understood. I do not mean that the farmer is more independent of *human* contingencies, than men in general; but I do mean that he enjoys an independence peculiar to his profession. In his operations, he comes in contact with *natural* contingencies. The Earth—the Sun—the Atmosphere are not capricious: Rain comes not at man's bidding. In this the farmer finds his independence—the due appreciation of which should be to him a consolation and a joy!

And what say these to him? "Do your part well, and we'll do ours, timely, surely." Thus the bargain is struck—and the farmer walks into his fields, an *independent man*!

But the farmer's mode of operation must correspond to conditions "named in the bond." It is his duty and interest—it ought to be his great pleasure—to learn these. To enjoy this independence rationally, he must acquaint himself with these.

The Earth is a bountiful mother. The way to get into her good graces—to profit by her fulness and fatness, are things for the farmer to study. Her doors are not opened to every one that knocks. Some have refused to get their tickets. These find her laws inexorable, knock they ever so much.

The sun comes up to the minute. He is always ready to do his part. Day after day—month after month—season after season—year after year, he comes. Here and there he looks down upon better and better—more and more; and here and there he shines upon worse and worse—less and less, as he makes his yearly rounds. And yet he shines for all alike. And the Atmosphere bears witness to the same. So does the Rain. Can Brother Practical-and-Science tell me the secret of this? Brother Posted-up has told me—and I see through it clearly. This latter enjoys his independence to the full, because he understands in what it consists. He talks like a parrot's roll about the harmony between Science and Practice—about how they are twin brothers born of Mother Seek-And-Find. And here I stick a peg, while I go out into the fields to breathe and learn of Nature the art of feeling good.

"I am monarch of all I survey—
My right there is none to dispute!"

And this little Book—don't be frightened brother—says to me:

" You are as little subject to accident and chance as any persons in this life can be; and your pursuits, always the same, are agreeably diversified by experiment and its results. When the labors of the day are closed, you can lie down to undisturbed sleep, without those engrossing anxieties which haunt the merchant, the physician and the lawyer. You have no 'argosies at sea,' no sick and wearisome patients, no clients to tax your energies and demand the exertion of every faculty with a cruel tension. You know when your work is done. The physician and the lawyer never know *that*, but the minutes of *your* slumber are the hours of *their* watchfulness and never-ending care. You have time to think, to consider, to compare, and your most serious labors are performed, thank God, under the pure canopy of heaven, where your eyes may wander and take in all the beautiful works of his creation. The fair sun is above you in the summer, and the harvest moon sheds its soft radiance upon the gathering in of your crops; health is in the breezes, a fair reward in prospect, and you need not envy the occupation of any class of men. Your business draws you away from the temptations, the arts and chicanery of traffic, of contract and of sordid gain; so great that Solomon exclaimed, 'How can there be honesty in buying and selling?'

" As your employments are full of dignity, so are they full of importance. Without your labors, civilized men cannot exist, and society would be compelled to go back to the savage state from whence it emerged, and depend upon the bow, the barbed hook and the spear. Garments from South Downs would give place to skins of animals, and all cultivated nature, now so rich and beautiful, would be overgrown with weeds, and choked up with wild and noxious plants.

" You are here, then, upon this earth for a noble purpose. It is to improve and adorn it, and make it that glorious planet for which it was destined by its Creator.

" You are here, also as patriots; for the land owner has a fireside and a home to love, to preserve and forever defend. Your walks in your fields are none the less pleasant that they are made upon your own grounds, and that which you hold you will not be likely to give up, that the stranger may possess it with a strong hand.

" Your pursuits have also a tendency to purify the heart, while they clear and exalt the understanding; for a farmer should have no debasing thoughts or groveling desires. *He deals with creation—simple, pure and beautiful—and there he finds no warrant for depravity, or the indulgence of unworthy passions.* The young farmer, too, has a vast advantage over a professional man, in this, that he can come to a competent knowledge of the business of his life at a comparatively early period. With his majority, his career is to begin, and he may then be full-fledged for the flight which takes him out into the world; and, in later life, when it is time to think of the something besides the cares of business, the advantages of a rural life begin."

There is nothing here set down in malice against the various callings among men. I am

writing for the farmer—not against the merchant. Labor is equally honorable everywhere. A man may disgrace labor—but labor never disgraces the man. To put the farmer in a right frame of mind to appreciate the Agricultural vocation, is my aim in these humble essays.

The din and bustle of the city, the clank of the engine, the plashing of the wheel, the jingle of the dollar, are too often brought up in contrast with the quiet and stillness of the rural vocation, to the disparagement of the latter. But look at the *finale* of things. The clank of the engine is no more the note of success, than the ding-dong of old Sylvy's bell; the jingle of the banker's dollar is no more success, than is the rattle of Manny's mower; ten per centum on calico is more than equaled in yonder swelling, blushing bulbs upon the orchard. Jenny Lind sang not so sweetly as does your merry bird; the studio boasts not the hue—breathes not the fragrance of our rose and lilac! Our waving wheat is far more graceful than the wave of crinoline.

Poetry don't prove much for the meal tub—still it may make a man *feel* right. I will try it right here, then leave the farmer to his thoughts awhile.

Talk of the city, with its thousand charms,
Its wondrous sights and sounds, and all the wealth
Of busy life that floods its stony heart:
Aye! live there if you will; spend days and months
Among the busy throng, in hot pursuit
Of honor, wealth and happiness—aye, chase
The fleeting phantom to "your heart's content;"
Then seek some spot among our rural hills,
And with your weary heart come there to breathe!
Talk of the village and its would-be great,
That ape so much the city!—here sojourn!
Seek out its so-called pleasures—shallow things
(With much of the *shell*, but little of the *meat*,)
Aye, seek for friendship 'mong the "upper ten,"
And bow your way into society;
But be ye careful, else, in acting out
Your inward nature, you should speak too loud
Or laugh too much—'twould be a *grievious sin*,
And might offend some over-polished friend!

And this may well apply to either life,
Village or town—yet there are many things
That make life pleasant in either place;
And one can live there—love to live there too:—
But give me then a few of summer days
Among the hills of some dear, rural home,
Where I may roam in freedom at my will,
And o'en climb the hills and fences, if I choose,
Or **KICK THE CLODS WITH MY DUSTY FEET**,
Without the risk of being called—"SO GREEN."

N. M. H—g.

Rock Hill, St. Louis County Mo.

Dr. Snow, in an important paper on drainage and water supply, shows that the absence of drainage, and its defective condition, are injurious to health only by the contamination they cause to pump wells, or other supplies of water; and that when the health of the community is improved by drainage, either in town or country, it is by the amendment which is effected in the drinking water of the locality. He adds, also, that houses situated on gravel are generally more salubrious than those situated on clay, because organic matters are usually oxidized in passing through the gravel, and converted into mineral substances, chiefly nitrates, which have not the power of communicating disease.

STEAM PLOWING TRIUMPHANT!

FIRST ACTUAL SUCCESS OF STEAM PLOWING IN AMERICA!—SEVENTY ACRES OF ILLINOIS PRAIRIE BROKEN BY STEAM.

The above is no sensation heading to a sensational article, but a real statement of facts as they exist—in three sentences. We visited Minooka, in Grundy county, last Friday, in order to observe the working of Waters' Steam Plow in breaking prairie, and will tell our readers what we saw there. On our arrival at Minooka we learned that Mr. Waters was at work. In company with Mr. L. Smith, who kindly volunteered to take us to the field, we left the station, going north, and passed over a field of forty acres which had been broken by Mr. Waters, with his plow. This was his first work. His plows not having been well finished up and polished, the breaking in the field was somewhat rough and broken, but, altogether, was very well done. The undulations in this field were considerable, giving both an up and down grade, thus testing the capacity of the machine in this respect.

Passing this ground, and ascending a high roll of the prairie, we caught sight of the plow in the distance, traveling leisurely across the prairie, drawing its gang of six plows, cutting a furrow nine feet in width. The scene was grand and exciting. As we approached the machine, we found Waters quietly guiding it, with none but the necessary attendants about him, and thus practically testing its ability and power before seeking to place it prominently before the public. We noted down the operation of the machine while we were with it. From a given point it traveled twenty-three minutes; stopped six minutes for wood; ran thirteen minutes, and stopped nine minutes for water; then ran nineteen—making fifty-five minutes running time and fifteen minutes stoppage. Had the man whose duty it was to furnish water and wood performed the duty as he should, and could have done, he would have saved at least five minutes of this time. Estimating the ground plowed, as nearly as we could without actually measuring it, we found that during seventy-two minutes (including stops) he had plowed 2 63-100 acres. That the machine can plow at this rate through the day without interruption, is not to be expected, in its present condition. The day previous to our visit, Mr. W. plowed twelve acres with it. The plows had been put to some very severe tests in a field full of small oak and hickory stumps or "grubs." These were cut off without injury to the plows, and apparently without effect upon the engine. We measured one of these hickory roots which had been cut through, its diameter was $4\frac{1}{2}$ inches.

In this trial Mr. Waters used but six of his gang of thirteen plows. His traction power seems sufficient to draw them all, and when a more convenient mode of handling and managing them shall be adopted he thinks he will have no difficulty in using the full gang.

As the machine is now arranged, it requires one and a half cords of wood, and a hand team to supply fuel and water (the water in this case

being half a mile away) as firemen, two men to manage the plows, beside Mr. Waters; to which add oil, &c., and Mr. W. says the cost to him is less than \$9 per day.

James Waters, the inventor, deserves more than a passing notice—more than our space and the data in our possession will permit us to give. Naturally very retiring, he has worked quietly and almost unknown. His mechanical talent and judgment are of a superior order. So complete were his plans perfected within his own mind that within three months from the time the first blow was struck on his machine in Detroit, he drove it into the United States Fair Grounds, in this city, amid the shouts of the assembled thousands. It there demonstrated its enormous power in turning over a furrow twenty feet wide and from six to eight inches deep, with its monster gang of thirteen plows attached. Unfortunately, before it could be tested by the committee, some portion of the plow gave way, and prevented a thorough trial.

Not at all disheartened, Mr. Waters repaired up, and visited the central portions of the State, exhibited the plow in operation, and finally returned to Detroit, where, during the winter, he has made some slight alterations; and additions to strengthen and improve it have been adopted. He now appears, unannounced, on our prairies, to claim what he has won—the honor of being the first man in America who has made a practical and paying demonstration of plowing by steam.

Up to the time we left Minooka he had plowed seventy acres, and is now engaged in a large job of prairie breaking for which he is paid by the acre.

It is his purpose to continue the work with his present machine, until he shall have established by experience what improvements are necessary, or may be made, in order to render his invention perfectly adapted to the wants of Western agriculturists. These once fixed upon will be well adopted. He now thinks he has learned something which will prove profitable; we doubt not he has. We shall look to see the results of his experience demonstrated.—[Prairie Farmer.

Purifying and Filtering Water.

We learn by a late number of the *London Engineer*, that A. P. Malard, of Paris, has recently secured a patent for the employment of prepared wool shearings as superior material for the water to pass through to be filtered. He employs any common filter, such as the portable kind so well known in our cities, which have a perforated false bottom, or a supporting shelf of wire gauze on which the filtering material is laid. The wool shearings employed by Mr. Malard are prepared in such a manner as to render them very durable, and not so liable to rot as the fibrous filtering diaphragms commonly employed. He first boils his wool shearings for one hour in a solution of alum and cream of tartar, then takes them out and exposes them to the air until they are quite cold. After this he boils them for an hour in a solution of nut-

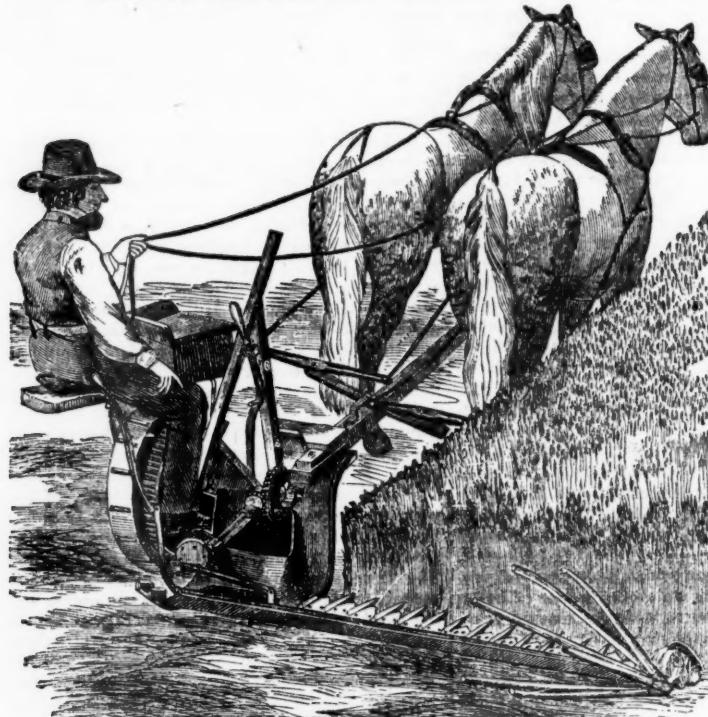
gall and acetate of iron, then in a weak solution of the carbonate of soda, after which they are taken out, washed perfectly clean, dried, and are ready for use by placing them in a stratum on the false bottom of the filter, and allowing the water to percolate through them into the recess below, when it is drawn off clear and limpid for domestic use.

As hard water cannot be employed for washing without wasting considerable soap, a simple method of rendering soft will be useful to many of our readers. Take about a pint of fresh slacked lime, stir it in a gallon of water, and allow the sediment to settle; pour off the clear water and bottle it tight for use, because if the air is not excluded it will absorb carbonic acid from the atmosphere. Half a pint of this lime water is added to a gallon of hard water, stirred, and the whole allowed to settle, after which the clear is filtered through a diaphragm of Canton flannel, and is ready for use, being rendered quite soft. If they wish to use this softened water for drinking purposes, a little lemon juice or cider added to it will greatly improve its taste. In the magnesian limestone regions of Ohio and other places, where the water of the wells, in warm, dry weather, is liable to cause cramps and chills when drank; the method described for treating it will prevent such results. The fresh slacked lime water unites with the carbonic acid of the lime in the hard water, and the whole lime held in solution falls down in the state of a fine chalk, leaving the water clear and soft.

THE PROSPECTS.

After much observation and inquiry in many parts of the West, we feel warranted in saying that the prospects of the farmer and the country are good. The late rains have filled the country with hope. The crops are in a fair state of promise. There is much stock to come into market this season. Farmers have doubled their diligence, and put uncounted acres under cultivation that have not before yielded to the plow. There is a general disposition to make everything tell in the coming harvest. The means for getting the produce to market is daily improving. Mills and machinery are on the increase. Farmers are lifting up their heads from their late prostration. Land speculators have, in many instances, turned into land cultivators. Many that bought land for speculation, are paying for it by the products they are getting from it. Debts are diminishing. A rigid economy is being practiced. It is a season of good health. The people of the country are not asking for much credit. Country merchants are seeking to do a safe business, and are beginning to feel a great relief from past embarrassments. Commercial health is evidently slowly returning. It is clear that we shall get out of our embarrassments by dint of untiring industry. And this is the right way. By labor we produce our wealth. Labor is the country's relief. Labor is the only producer.—In labor skilfully applied, we shall realize our only prosperity. *

KIRBY'S AMERICAN IRON HARVESTER, AS A MOWER.



In the May and June numbers of the *Farmer* the history of Kirby's Patent Combined Reaper and Mower was published with illustration as a Reaper. It now appears as a Mower. The manufacturers speak of it as follows:— It is made entirely of Iron, except seat and pole, the finger bar of the best wrought iron, with a flange on the front edge, that adds strength and prevents the cut grass from riding on the bar, and to this flange the fingers or guard are fastened by bolts with the nuts on the back of the flange and on top of the bar, where they are easy of access, enabling the operator to replace a guard in a few

moments without the use of a cold chisel and rivets or the necessity of turning up the Machine or taking off the bar. By the very simple arrangement of the frame, gearing and connections, a large weight of iron, which is necessary in other machines, is dispensed with.

The Driver's seat is pivoted over the Driving Wheel, the front end being fastened to the frame, and the driver sitting upon the other end upon a seat which can be gauged to correspond with his weight. The seat is thus made to act as a lever, by means of which the weight of the driver counterbalances the weight of the frame and the downward pressure on the horses' necks, throwing the whole upon the driving wheel, thus adding to the power of the wheel, materially lightening the draft, obviating all side draft, and permitting the knives and fingers to lift more easily over stones and obstructions, thus rendering them less liable to injury.

The Independent Action of the Finger Bar is secured by the peculiar mode of attaching the driving wheel to the frame, so that the wheel in passing over uneven ground does not carry the finger bar up and down with it, as in other machines, but each acting independently, *the fingers follow the ground*, thus enabling the Machine to *work well on uneven surfaces*. This independent action and flexibility of the finger bar very materially lessens the liability of breakage in coming in contact with obstructions. It also permits the finger bar to be set at any desired height, both in mowing and reaping, enabling the Machine to work equally well whether the ground be wet or dry, hard or soft, and rendering it a perfect Combined Machine, working equally well whether mowing or reaping.

By means of a Lifter, the driver can at pleasure, elevate either end or both ends of the finger bar, to pass over obstructions, carry his swath, or move from field to field.

The Cutters are placed upon the bar, with spaces between them, to enable the gum and other substances that clog a Machine to work out; and the rivet heads project and play through slots in the fingers, effectually clearing the Machine at every stroke. By means of a Lever the driver can throw the Cutters in and out of gear at pleasure while the Machine is in motion.

The connection from the crank head to the knife rod is very simple and light, doing away with the continuous and vexatious delay and expense of renewing nuts, bolts, boxes and cranks, as in other Machines.

By a most simple and ingenious arrangement the knife is thrown out of gear when the Machine is backed, and is instantly thrown into gear again when starting forward. It has a Revolving Track Clearer, which is the only one which will effectually separate the cut from the uncut grass, and leave it spread evenly on the ground.

Those who are in want of a first-rate Harvester cannot do better than to send their orders to Messrs. Plant & Brother, St. Louis, Mo.

A MOWER.

The engraving represents the "J. H. Manny" Machine as a Mower. The manufacturers speak of it as follows:—

To the farmer it is all important that he should have the best machine—one that has been tested for years and can be depended upon. The farmer has often been tempted to purchase an inferior machine on the strength of a warrantee; but when harvest came he found to his sorrow that even though the warrantee might possibly save him from paying part of the price, the grain was spoiling, and he was still without a machine that would work. In order that a machine should answer the farmer's purpose, not only should the plan be good, but every part should be perfect. The "Manny Machine" will ever continue to excel in simplicity of construction and strength; in facility of management, freedom from side draft, and by its perfect adaptation to uneven grounds.

The perfection of its present cutting apparatus, has cost the inventors and present owners of the patents many thousand dollars, and which thus gives the farmers a machine that will not choke in wet grass, which is claimed but not attained by every reaper or mower maker.

The Patent Guard Finger in this machine is the most scientific thing of the kind ever made use of, affording greater perfection to the knives, and by their shape, and sharp edges assisting the cutters materially; by their double caps and the recesses, together with the Patent Lozenge Shaped Sickle or Knite Blades, produces the greatest facility in cutting, and renders clogging under any circumstances impossible.

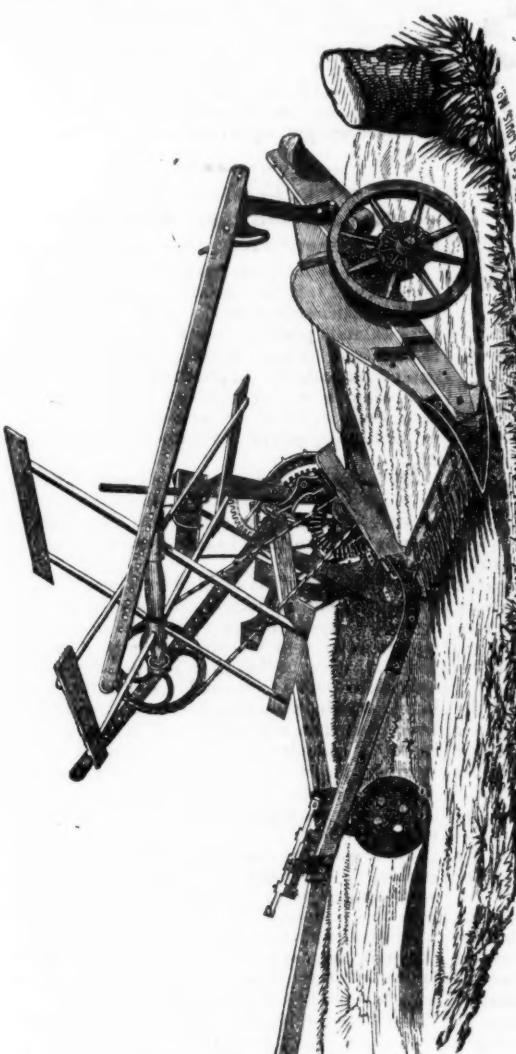
The Divider is a valuable improvement. It operates to divide and gather the grass upon an entirely new principle, and the only principle that will work in all kinds and conditions of tangled grass and clover.

The grass wheel is larger, making the draft light. By means of a lever at the driver's seat, the cutter bar can be raised to pass over any obstruction not higher than the axle. The sickle is also at the control of the driver, and can be stopped and started at pleasure.

The Driver's seat is placed upon a spring, over the driving wheel, having a view of the entire operation of the machine.

In addition to testimonials of thousands of farmers, and premiums for years in succession, it was awarded the First Premium, the Grand Silver Medal and Fifty Dollars, for being the Best Mower, before a committee of able agriculturists at the St. Louis Agricultural and Mechanical Association, September, 1859, over the most prominent machines now before the public.

Manufactured by Messrs. Kingslade & Ferguson, corner of Second and Cherry Streets, Saint Louis, Mo.





Contraction of Horses' Feet—Cause and Remedy.

There are very few blacksmiths who make it a business to shoe horses, who know but little more of the anatomy of the horse's foot than they do of the composition of the moon. Without some knowledge of this kind it is impossible to always shoe a horse without causing lameness and oftener lasting injury. On this subject we copy the following from the *Scientific American*, by R. Jennings, V. S.:

"The tendency of horses' feet in a healthy condition, is to expand whenever the weight of the body is thrown upon them. Being a very complicated piece of mechanism, they are very easily disarranged, and once out of order are difficult of repair; hence the necessity of preserving them in a sound condition.

Contraction is caused—1st. By cutting away the bars of the feet, which are the mainstays for the support of the quarters; 2d. By (opening the heels, as the smith calls it,) cutting away a portion of the frog, in consequence of which the moisture of the frog becomes absorbed, losing its elasticity, and destroying its function, thus exposing the feet to injury by concussion; 3. By standing upon plank floors; 4th. By improper shoeing.

An ordinary observer will, upon an examination of the common shoe, notice that it inclines from without inwards at the heels, thus forming a concavity for the feet to rest in; the consequence is a lateral resistance to the expansion of the hoofs, when the weight of the animal is thrown upon them. The effect of this resistance is to force the heels together, creating pressure upon the sensitive parts within the horny case; establishing fever, by which the moisture of the hoof is rapidly absorbed, rendering the hoofs hard, brittle, and liable to crack, and frequently causing corns, navicular joint lameness, bony deposits to be thrown out from the lateral wings or processes of the coffin bones, rendering the animal permanently lame or unsound. These are but a few of the bad effects arising from contraction; enough, however, to serve our purpose at present.

Remedy.—Preserve a level bearing by making the shoe perfectly flat on the quarters, so as not to interfere with the expansion of the feet. Should contraction already exist to a considerable extent, level the shoe slightly outward at the heels, in order to facilitate expansion. Care should be taken not to level too much, or bulging

the lower part of the hoofs at the quarters will be the result. The shoe should in all cases be forged and not twisted, as is sometimes done to save trouble by the bungling smiths. Proper applications, to soften the horny parts and promote elasticity, should also be used. Such preparations are put up in the form of hoof ointment."

[Written for the Valley Farmer.]

Wounds and their Treatment.

BY HENRY CORBY, VETERINARY SURGEON, ST LOUIS.

Nothing is more common than wounds and injuries, and it is too often the case that they are most injudiciously treated. Almost every owner of animals possesses some unfailing sanative, in the form of healing salve, gargling oil, or patent cure-all, for application to any wound; and when a wound has healed, either by the help, or in spite of the application, his faith in the healing power of the remedy is unbounded.

My object on the present occasion is rather to show how Nature effects the healing of a wound, and by what means her efforts at repairing such injuries to the organism may be assisted.

Wounds are of many kinds. Those inflicted by a sharp cutting instrument are called incised wounds; those inflicted by a blunt instrument, either contused or lacerated wounds, these differing in extent rather than in kind, being both associated with a torn condition of the parts injured, which in contused wounds amounts to little more than a bruising of the parts, while in lacerated wounds they are torn asunder. Then there are punctured wounds, which are inflicted by a pointed instrument penetrating more or less deeply into the tissues, and leaving but a small external orifice.

These all vary materially in importance, according to the nature of the parts injured; a very small punctured wound, if it enter a joint may even endanger the life of the animal; and a small wound at the junction of the hoof with the skin, may so injure the surface from which the hoof is formed, as to be productive of great lameness, and perhaps permanent injury.

But notwithstanding these varied circumstances, which either increase or diminish the importance to be attached to a wound, they all have to be healed in one of two ways; either by what is called the adhesive process, which is the quickest, or by the slower mode of suppuration and granulation.

In order to comprehend rightly the proper method for assisting nature in either of these reparative processes it is necessary that they be first understood.

For an example of union by the adhesive process, we will take a simple incised wound, say a cut finger, the immediate effect of the injury will be seen in the flow of blood from the vessels that have been divided; if the cut be not very deep this bleeding soon ceases, and if the edges of the wound are carefully observed, it will be seen that a thin layer of some fluid material soon covers the cut surfaces, and if they are kept quite still, the cut parts will be held together by

it, and in a few hours the wound will have united. This is what surgeons call union by the adhesive process, and is Nature's method of speedy cure; the semi-fluid material which appears on the surface of the wound, consists of the more solid parts of the blood, which exude or sweat out through the smallest blood vessels.

Now, in treating a wound with a view to have it heal in this manner, it is necessary first of all to render it quite clean, then to bring the edges of the wound together as closely as possible, which may be done either with a needle and silk or thread, or with wire, or else by means of pins passed through the lips of the wound and having tow or string twisted around them, as is done after bleeding a horse from the neck. After this, perfect quiet is necessary, as the bond of union is not strong, and may easily be broken.

It is this necessity for rest that renders union by the adhesive process difficult in all the lower animals; in the practice of human surgery it is not uncommon to cause wounds of large size to heal in this manner, and it should be attempted in all cases of incised or clean cut wounds.

Punctured wounds also may often be healed in the same manner, and it may be brought about by covering the external orifice of the wound with some adhesive substance, so as to exclude the atmosphere. But there are several situations in which punctured wounds, though themselves of no great size, are of considerable importance, as the feet, the chest and abdomen, or the joints. These require to be spoken of separately, and taking first the foot, punctures from nails either in shoeing, or from nails lying in the road are very frequent and often troublesome. In treating any case of puncture to the foot it is necessary first of all to remove the shoe, then pare the sole thin, in order that there may be as little pressure as possible on the sensitive and now sore parts beneath; most persons are too much afraid of cutting away the horn, and only dig a little way into the sole just where the nail has punctured. The whole sole should be pared thin, and then it will be easy to see whether any portion of the nail is broken and left in the wound; if so it should be removed, and then the exposed and injured surface may be covered either with a little cotton steeped in tincture of myrrh, or with a little turpentine, or even sprinkled over with dry flour and covered with cotton. After this, if the foot is very sore it will be well to put on to it a poultice of either bran or flaxseed meal, which will keep the horn moist and soft, and thus materially lessen the pain. Punctured wounds of the foot thus treated will generally heal readily; the vessels furnish the same healing material before spoken of, this becomes covered with new horn, and in a few days the animal is again fit for work; while, if neglected, at first matter forms beneath the horn, and being there pent up is productive of serious mischief.

In such a case the paring of the whole sole becomes more necessary than ever, any horn that has been detached from the sensitive parts beneath must be removed and a poultice applied to the foot.

When a punctured wound has penetrated a

joint, or one of the sheaths of the tendons, there is great danger of inflammation of the membrane by which their inner surface is covered; and in order if possible to prevent this, it is necessary to close the opening as soon as possible, so as to exclude the atmosphere. This may be done by clipping off all the hair around the wound, and then covering it with an adhesive plaster, which may be made by spreading a mixture of melted pitch and wax upon a cloth, and applying it while warm. But as this cannot always be done, another means of closing the orifice is sometimes advisable, this is to take a pointed iron at a dull red heat, and carefully sear the edges of the wound; when the eschar formed by the application of the iron will serve to exclude the air, until the lower part of the wound has healed. In thus using a hot iron great care is necessary lest the cure prove more dangerous than the disease.

In every case of injury to a joint, perfect rest is indispensable, there need be no fear that the joint will become stiff from disuse, the only fear is that the joint itself may become inflamed, altered in structure, and so rendered unable to move with its former freedom.

After closing the orifice it will be well to keep the parts moistened either with vinegar and water, spirit and water, or cold water alone; but all applications of a stimulating character are to be carefully avoided.

Punctured wounds affecting the chest or abdomen, may be treated in the same manner as those puncturing the joints, but if either the lungs or the intestines have been wounded, the case is likely to end fatally, and will require medical treatment in addition to the attention to the wound.

When large blood vessels have been opened, it is often necessary to enlarge the wound so as to get at them and arrest the bleeding by tying a ligature around the vessel injured; but this can only be done by one acquainted with the situation of the vessels and their relation to other organs.

[To be continued.]

[Written for the Valley Farmer.]

STOCK PAYS ALL THE TIME.—The heading of this article was the remark of an old farmer the other day, while deplored the failure of his wheat crop. One year the wheat fails, another year the oats fail, another year the corn: but, said he, "Stock pays all the time." He, moreover, remarked, that the farmers who early gave their attention to stock-raising, had gone right along without set-backs, and had outstripped the grain-growers.

There is no doubt much truth in the old man's remarks. Stock is the surest and most remunerative. But in thickly settled regions it is better and safer to divide the interest between the two. The two assist each other and improve the farm. The waste straw, and offal of the grain crop, will go far to feed the stock, while the waste and offal of the stock will go far in fertilizing the soil and improving its capacity for productiveness. The strength of the soil is a great desideratum with the farmer. The soil is his mine of wealth—his treasury—

his bank of deposit. He must keep it good, or his paper is protested; his reputation as a farmer is dishonored.

It is well to keep a variety of stock, as well as raise a variety of grain crops. The general profits of each year are thus kept nearly equal. Farming may be done closer, less wasted and more made.

WHAT KILLED THE HOGS.

EDS. VALLEY FARMER:—On the 27th of Sept. 1859, I put up two young healthy hogs for early use, in a new clean pen, quite large too, about 16x16 feet, part of it sheltered. They continued to do well until the 8th October, prox. when on going to feed them about 1 o'clock p. m. they were found lying down on their sides in a dying state, and, when moved, not able or disposed to struggle the least. Now when fed in the morning, which I did myself, these hogs were to all appearances perfectly well; but at this time (1 o'clock p. m.) were lying relaxed, but breathing rather short, and exhibited no signs of having struggled at any time. No frothing at the mouth; no swelling in any part that I could discern; no derangement of the bowels (by any external sign) nor anything unusual, except that the hogs were dying, and did die in about half an hour, both of them nearly at the same time.

As I was confident I had no wickedly disposed person about my premises, I was exceedingly puzzled, and called in an experienced neighbor to help me open them. We examined almost every part, but my neighbor thought all looked healthy but the small guts, they contained but little excrement, and in some places had thickened and become whitish, were corrugated, flattened and entirely empty at these places.

These hogs were fed principally on the growing crop of corn, with occasionally some green articles from the kitchen, and plenty of good water. In a dry trough a little salt was occasionally given them, and into this the evening before, some butter-bean hulls had been thrown. After the hogs died I mentioned to several of my neighbors the case, but none could account for it till a lady friend in whose judgment I have great confidence suggested that they must have been killed by eating *Butter-bean hulls*—that her husband had lost two or three from eating them. She thought they were choked by them. Mine, at the time I saw them, exhibited no symptoms of choking, and no symptoms of it on examination after death. They could not have eaten many of them either, as I found very little green food in the stomachs, and probably they would not have eaten them but for their contact with the salt in the trough which perhaps rendered them more palatable. I do not think therefore that my hogs were choked, and I did not mention to my lady friend that butter-bean hulls had been thrown to them till after she suggested it. It is remarkable however that the hogs in both cases died soon after eating them. Is it possible that a poison to hogs may be generated out of *Butter-bean hulls in the stomach?*

I had not enough hogs left to admit of trying the experiment upon more at the time, I believe

also that the beans were shortly after too dry to tempt them, had I been so disposed: I hope somebody will the coming season, for if they did not kill my hogs, I am perfectly at a loss to account for it.

THOMAS R. J. AYRES.
Near Monticello, Lewis County, Mo.

POINTS OF COWS.

A. L. Fish, a well known dairyman of Herkimer county, New York, gives in the Little Falls *Record* some good remarks on the points of cows. He very properly considers strength of constitution and capacity to eat what is offered her, at all seasons of the year, as of the first importance. He rightly observes, also, that the indications of such a constitution are a thick mellow skin, with soft hair, a bright full eye, a broad loin and hips, deep body and straight back.

"Cheese dairymen (and city milkmen) usually select cows that yield the largest amount of milk, because they depend more upon the quantity of cheese than its quality, and milk is known to make a good yield of cheese that would make but little butter, and poor at that. But I am not in favor of the rule of selecting cows that yield the most milk per day or season, in arriving at a proper standard of excellence for the best. * * * The quality of milk a cow will give is indicated by the hair and skin, and yellow color of the skin inside of the ears, and other parts not thickly covered with hair. I have never known a cow, with soft, fur-like hair and mellow skin, appearing yellow and gummy at the roots of the hair when parted with the hands, that was not a good butter cow, and when fattened would mix tallow well with flesh. Having been accustomed to fatten my cows that failed for dairy purposes, by age or otherwise, for many years, and being on the lookout for causes of known results, I have observed that those known to give good milk made most thrift in tallow when fed to fatten. Hence the conclusion, that cows handle well in what the butchers call tallow joints, may be judged to give rich milk, the quantity to be judged by a plainly marked design of nature in her physical structure. Instead of heavy head, horns, neck and shoulders, and comparatively light hind quarters, which is characteristic of the opposite sex, she should show an opposite design; by a feminine countenance, light head, neck and shoulders, widening backwards from her chest to the loins and hind quarters, where the most strength is required."

To CATCH SHEEP KILLING DOGS.—The country is overrun with worthless dogs—and this is one of the chief reasons why many farmers do not raise more sheep. It is those men who own but little else, who keep the greatest number of dogs; faring scantily at home these hungry curs roam the fields and make slaughter among the neighbors' flocks. But while candidates for office depend on the votes of these men for an

election to the Legislature, few of them possess the independence to vote for any efficient law for the protection of sheep against dogs. It remains, then, for every farmer to employ such means as will protect his own flocks *upon his own premises*. To do this he has only to make a trap in the form of a "rail pen," similar to that employed to catch wild turkeys, only in the case of the dog the entrance must be left on the top, instead of the bottom. When your flock is attacked and a sheep has been killed, proceed at once to lay up a pen, and with every course of rails gradually contract it towards the top, raising it until it is about five feet high, leaving an opening on the top sufficiently large for a dog to jump in with ease. Into the centre of the pen place the carcass of the dead sheep, and remove the flock to some other part of the farm. The first or second night after the attack the same dog will be quite sure to return for another feast; finding the flock gone, but the carcass remaining, he will enter the pen but will not so readily manage to get out. The owner of the sheep can then satisfy himself as to his guilt or innocence, and act accordingly.

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[Written for the Valley Farmer.]

STOCK.—The value of stock to the farm and country is yearly increasing. The farms of the West are growing older, and many of them are beginning to feel the need of stock for renovation and improvement. Towns and cities are growing up rapidly which call for meat from every farmer. This home market must be supplied by home production. The good of both the farmer and the country require the increased improvement of the stock of every farm. The special idea that we wish to press upon the attention of farmers in this article is, that stock raising is the business of every farmer, in some degree. And hence every farmer should improve his stock. It is a prevailing opinion that only stock farms are for stock, and only stock farmers should give attention to the improvement of breeds. This is a mistake. Every man who keeps a horse, a cow, or a hen is interested in stock. It costs no more to keep a good horse or cow than a poor one. The service of a good one is far greater. It is less liable to sickness and death. And a good breed is more safe and agreeable than a bad. It costs no more to rear a colt, a calf, a lamb, or a pig, of a good breed, than of a scrubby, coarse breed, and the value when reared is far greater. If all small farmers would make it a point to keep and rear none but the best stock, the profits to their pockets would be very great in the course of a few years.

There is still another view of the matter. There is a pleasure in doing a good thing; a shame in doing a mean thing. There is a pleasure in rearing a good animal; a shame in rearing a scrawny, mean one. Every man should be ashamed to be the owner of a mean horse, cow, hog, or sheep—a poor, coarse, shabby specimen of any kind of stock. There was a time when a farmer was not guilty for owning mean stock; but that time has passed. Everybody now knows better. The pleasure and the honor

of farming is to do it well; the pleasure and honor of stock-raising is to produce beautiful and noble animals of their kind. Every man should get as much pleasure out of his business as possible. Good stock is a living profit and pleasure to the farmer. *

[Written for the Valley Farmer.]

THE DAIRY.

There has been a great neglect of the dairy in the West. Only poor cows have been kept, and they very meagerly kept and cared for. Only little attention has been given to the art of butter and cheese making, we might almost say the science of the dairy; for it is really a science. The breeding of dairy cows, their care, keeping, milking, the care of the milk, raising the cream, churning, preparing and preserving the butter, making the cheese, take it all in all, is both a science and an art. The dairy cow is not a natural, but an artificial animal. The natural cow only gives milk enough for her calf, and that only long enough to enable it to grow to the period of grass-eating. Then her milk dries, to give time and place for another calf. The great milk-giving quality of the dairy cow is wholly the work of cultivation. There is as much difference between the real dairy cow and the natural cow, as there is between the rich rose of our gardens and the wild single-petaled rose of the wood, or between the best apple of our orchards and the natural crab apple of the grove. The dairy cow is therefore a made creature. That which makes her so valuable to man, is the product of his care and attention to her. This quality may be still improved. The rich grasses and roots of this Western region may work a great improvement in the breeds we possess, as well as in the best breeds imported from foreign dairies. We want thought and experiment, in breeding, rearing, keeping and milking. With proper attention a few years may give us as noble a breed of cows as has ever been raised, and perhaps better. What has been accomplished is not the limit of the cow's improvement. The immense population of the Western world calls already for immense quantities of butter and cheese. This home market is being fast enlarged. The demand is rapidly increasing. The supply is now found mostly in the older sections of the country. This ought not to be; it will not long. The West must make its own butter and cheese, or be drained of its money to supply these universal articles of consumption. Tens of thousands of dollars go East now every year to buy butter and cheese for the West. St. Louis is almost wholly supplied from the old States. It is a great drain on the pockets of the West. The whole North West is a grand dairy region. And from the immense buffalo herds of the Western wilds we may infer that the best dairy region of the world is yet to be settled. Butter and cheese will some day go the other way. The Atlantic States will get them as they do their flour. But this cannot be till there is a great waking up in the West to the utility and profit of the dairy business. It must become a business as wheat-growing, wool-growing, stock-raising, &c. We scarcely dream yet of the products of the West. *



HORTICULTURAL.

A HOUSE TO DRY FRUIT IN.

In compliance with the request of J. D. R., of Mo. we give the following as the best plan for a dry house for fruit, which is employed in one of the most extensive fruit growing establishments in the country. The ordinary method of drying peaches and apples in Kentucky and Tennessee is to construct a kiln with a broad flat top of stone upon which the fruit is laid, and a fire kept up in the flue beneath till the fruit is sufficiently dried. This is more expeditious than drying in the sun and the fruit is not so liable to be soiled by flies, yet it is objectionable on account of too great heat and liability of the fruit to burn in contact with the stone. The method we here describe is expeditious and economical. The whole of the labor of erecting the building and fixtures may be done by any ordinary workman, or farm hand. It consists of a building of logs, brick, or stone, of any convenient size, say ten feet wide, by twelve or fourteen feet long, and one story high, with an ordinary roof, with a ventilator to admit of the escape of the heat and vapor arising from the fruit.

The furnace should open on the outside of the building, at the end. It should be about two feet square. The sides should be of brick and as thin as may be to sustain the top. The flue should be extended to near the entire length of the building; and then return, forming a parallel flue, which may be reduced to two-thirds the size of the furnace or main flue, terminating in a chimney near the door of the furnace. The top of the furnace and flue should be covered with plates of thin boiler iron: thicker iron, or a covering of brick or stone, will not admit of a sufficient escape of heat to facilitate the drying process. The fruit is dried on trays or hurdles, arranged in three tiers, one above another, with a space of twelve or fifteen inches between them. The hurdles may be two and a half feet wide, and six or seven feet long, and three inches deep. These are made of common boards, with

a lath bottom, made thin; the laths should be made of hickory, as the fruit is found to dry much more readily on hard wood lath than it does on poplar or other soft wood. Through the length of the building frames are put up to support the hurdles of fruit. These frames or rails extend through openings made in the end of the building opposite the furnace, and corresponding with each pair of rails are wooden shutters. The rails extend on the outside about six feet; upon these the hurdles are placed crosswise; upon each of the hurdles are rollers corresponding with the rails or frames, and filled with the fruit to be dried, which are run in as upon a rail road. Thus arranged, with the three tiers of rails filled with trays of fruit, about one and a half barrels can be dried at once, requiring about twenty-four hours to complete the operation. The trays nearest the fire, of course, will dry the fastest, and with the convenience of the railroad, and the shutters in the end of the building they may be drawn out and changed to the upper rails, when the whole may be finished within the twenty-four hours in the most perfect and uniform manner and without the least burning. The fire should be made without grates, on the bottom of the furnace, which consumes less fuel, and keeps up a more uniform heat than if placed above the draft.

In some instances we have seen pieces of old steam boilers substituted in the place of brick walls for a furnace; to the boiler is connected and returned a pipe of somewhat smaller dimensions, a sheet iron pipe, which admits of the free escape of heat and speedy drying of the fruit.

In sections of the country adapted to peach growing, as well as apples, and remote from railroads and a market, a profitable business may be followed in drying fruit with the simple conveniences we have discussed; and with the increased demand for dried fruit we often wonder that the subject does not command a greater share of the farmer's attention.

TOMATOES.

This delicious and wholesome vegetable is too frequently spoiled by the manner in which it is prepared for the table, as many housekeepers do not seem to understand the proper manner of having them prepared and cooked. The chief error is in not having them cooked enough. We often meet with them upon the table after being barely scalded, and served up only a sour sickening broth.

To prepare tomatoes properly they require to be cooked three hours or more, and until the

juice is evaporated, so that the pulp becomes a mass of equal consistence. Some persons consider it an improvement to separate the seeds at the time of peeling them; the seeds may be strained out and the juice returned to the fruit and all boiled down together, which probably adds somewhat to the richness of the dish, though it adds considerably to the time necessary to cook them. When tomatoes are scarce, the addition of some broken bread or crackers not only increases the quantity but improves the quality.

In preparing tomatoes to put up for winter use, it is better to boil them down well, nearly fit for the table before they are put into the jars, as a less number will serve for a given quantity. If properly prepared and securely put up so as to entirely exclude the air, they suffer nothing in quality by age, and form an excellent and an economical dish throughout the winter and spring. Stone jugs, it well glazed, are very handy vessels to keep them in, or the common cheap glass jars, costing but seventy-five cents per dozen, and holding a quart each, we prefer to anything else. No corks are needed, but a stout cotton cloth well waxed where it comes in contact with the glass, and then thoroughly covered on the outside with wax, has never failed with us to keep them well.

Visit to "Fruit Land"—The Barbour May Cherry.

At the commencement of the strawberry and cherry season we spent a day or two at "Fruit Land" with our esteemed friend the Hon. John G. Taylor, of Henry county, Kentucky. Judge Taylor is one of the most enthusiastic fruit growers in the State, though not the best cultivator. He has many acres devoted to orchard culture and grape growing, and has in his collection almost every variety of fruit worthy of cultivation in this country. The Taylor grape is a specialty with him, and when its merits become fully known we think it will be placed alongside of the best varieties now introduced. Here the cherry succeeds better than in almost any other situation in Kentucky. The secret of its success may be attributed to the peculiarities of the soil, which are of a dry, *gravelly* character, and not ever rich. The land is considerably rolling, and being filled with flint and broken gravel it affords natural drainage, causing a moderate growth of wood which thoroughly matures, and hence is free from the fatal effects of frost, which is the chief obstacle with us in the culture of this valuable fruit. The advan-

tages of the soil we have described is here strikingly apparent, for cherry trees which were planted upon a more compact loamy soil, and of greater richness in the immediate vicinity of others planted on the poorer gravelly soil show the same effects of frost and sun that have proved so disastrous to the numerous attempts to grow the finer varieties of the cherry in Kentucky. In the adjoining county of Trimble there is much land of a similar character, where the cherry prospers as well as it does in Ohio or the more northern States. These facts should be borne in mind and may serve as a guide in the selection of soil by those about to plant cherry trees. Another fact is clearly demonstrated in the practice of Judge Taylor in training his trees. We allude to forming a low head—forcing the trees to branch as near the ground as possible. Trees trained after this manner are sound and vigorous, while others that were pruned up after the usual custom, and on land less gravelly, frequently have the bark upturned upon the south side, which soon causes the decay of the tree.

Judge Taylor cultivates quite extensively a seedling cherry of great merit, but which has never found its way into the public nurseries. It originated from a parcel of seed brought from Virginia about fifty years ago. The original tree is still vigorous and healthy, standing on a farm near West Port. The trees we saw are as hardy as an oak. Out of a large number that we examined we did not notice one that showed the least defect. The growth is remarkably symmetrical and uniform, the branches putting out in tiers similar to those of a white pine. The fruit is large, of a red color; the flesh white and extremely sweet and delicious. It ripens about with the early strawberries; and when it generally becomes known it will be regarded as a decided acquisition, particularly in this section of the West where it is so difficult to grow the better class of cherries. We saw a number of trees that had borne uniform and regular crops for seven years, without a failure.

In giving publicity to a new and superior fruit, we will here take occasion to remark that Judge Taylor is not a nurseryman, but an amateur cultivator, and never sells either the plants or cuttings of any of the choice fruits that he cultivates, but freely gives to those who are worthy of such favors; and his liberality in this respect has led to the grossest impositions from numerous persons at a distance. For instance, one man writes from St. Louis, Mo., and modestly requests that from 100 to 500 roots and from 500

to 1000 cuttings of the Taylor grape be sent to him if they can come to him "free of charge," but in his liberality for such a favor is willing to "pay for the boxing." Another writes from Washington City for 100 grape roots to send to Europe, on condition that Mr. T. will pay the express charges to Washington. In view of these, and numerous similar impositions required of Mr. T. we will state the grape and the cherry will be in the hands of regular propagators who will soon be prepared to meet the demand for the plants at ordinary or reasonable prices.

We mention this in advance, as it is probable that the cherries will be sent to the members of the Kentucky Horticultural Society, who will describe the fruit in its published reports.

Preserving Fruit in Air-Tight Jars.

One of the most valuable discoveries of the present age, is that of preserving fruit and vegetables for winter use, in their fresh state, in air-tight jars, thus extending the use of these luxuries throughout all the months of the year. Not only may fruits, such as strawberries, blackberries, peaches and a long catalogue of other varieties be esteemed as luxuries, but they are absolutely essential to health. The old practice of boiling fruits in equal weight of sugar, and converting the whole into an indigestible and unwholesome mass, is fast giving place to the improved method of putting up fruit in air-tight jars. Since the introduction of this method, great improvements have been made in the construction of jars and the most expeditious and sure method of closing them. First, the tin cans were used requiring a practical tinman to solder them up. Tin is expensive, and subject to corrosion from the acid of the fruit. Glass was soon introduced as a substitute, but the great desideratum was to close them with facility, so as to make them perfectly tight. Numerous "self-sealing" contrivances were adopted, with the most of which wax was required; the use of this wax was not only sometimes difficult, but often failed, in consequence of the wax while in a melted state being forced in (by the shrinkage of the contents of the jar in cooling) by the pressure of the external atmosphere. Last season while on a visit to our esteemed friend Charles Downing, at Newburgh, New York, we were shown a new style of jar invented in Pennsylvania, which only requires the fruit to be put into the jar while both are warm, and with a few turns of the screw in the cap the jar is instantly closed, requiring no wax or other compound to render it perfectly tight.

On making a recent call at the Glass Works in Louisville, Kentucky, we were shown by the proprietors, Messrs. Krack, Stanger & Co. jars of all sizes with this improvement for closing the mouth, and also another they are also manufacturing, which we regard as the last step towards perfection, inasmuch as the closing of the jar is on the outside where the material used is not exposed to change from contact with the contents, rendering the whole, so far as we can see, free from the least objection. In forming the mouth of the jar, Messrs. Krack, Stanger & Co. have still further improved them by the peculiar form, adding materially to their strength and durability.

In most parts of the country fruit is more than usually abundant, and large quantities will be put up the present season. We would advise every housekeeper to use the improved jar. By referring to an advertisement in the present number of the *Valley Farmer*, it will be seen that the great merits of these jars are set forth.

CULTURE OF PEARS.

We believe that pears are a surer crop than apples have got to be; yet to grow pears successfully they require care, and so do all kinds of fruit. If trees could once be planted and left to take care of themselves, that time has now gone by. Good culture and reasonable care is now necessary in the successful culture of any crop, and as much for fruits as for grain and garden vegetables. The great lesson has been learned, and at no small cost, that some of the best varieties of pears are suited to our climate, out of thousands that have proved worthless.—We have also learned much in regard to the best manner of growing them, as well as the best way of keeping and ripening them. However well some varieties of pears are grown, if they are not treated properly in ripening, they will not show their best qualities, and some are even worthless. Few pears will ripen well on the trees, but they must be picked at just the proper time and ripened in the house; and to enjoy their greatest excellence, they must be eaten when the process of ripening has advanced just far enough. Much, in this respect, is to be learned by experience. The Jargonelle, Bartlett, and some other kinds, should be picked some days before they are ripe, and laid upon a shelf in the house to ripen. Some varieties will rot at the core if not gathered in time, while the outside is still green and comparatively firm.—Winter pears should be gathered before the fall frosts occur, and should be placed in a good,

cool, dry cellar, such as is found most suitable for keeping apples. If brought into a warm room and placed in a drawer in the winter they will become mellow in a few days.

[Written for the Valley Farmer.]

Wine—Vinegar—The Blackberry.

The importance to our country, in a moral as well as economical point of view, of the production of a cheap domestic wine, is universally admitted. Great efforts have been and are still being made to introduce varieties of grape, that will be likely to supply this want. I have no disposition to disparage these efforts or the value of the grape, but it is nevertheless the fact, that *the fruit for the manufacture of a good, cheap, domestic table wine, for the use of "the million,"* and of which every family in the country may have a barrel, grows under everybody's nose—and is the despised *blackberry*. This common fruit is in fact a member of the grape family, and though it has long been considered a sort of vagrant and its education has been very much neglected, we are beginning to find out that, with any kind of decent treatment, it will exhibit as good "blood" and make as good wine as any of its more fashionable relatives. The attention of the readers of the *Valley Farmer* has been called to this subject before, but it is of sufficient interest to bear a repetition, for the benefit of those who have not yet tried the experiment. Those who have, will be pretty sure to repeat it during the present season without any reminder.

THE WINE MAY BE MADE AS FOLLOWS:

The blackberry contains a very large quantity of juice, but it is contained in numerous small cells, all of which must be broken in order to effect its perfect liberation. This may be done by rubbing the berries in a tub with a wooden pestle, if no better means are at hand, though a wine press might no doubt be used to great advantage. The berries should be ripe, fresh and clean to make the nicest product.

Take then as many ripe, fresh and clean blackberries as you please, and, as fast as you rub them up so as to break the cells, throw them into a vat or tub of sufficient size to hold all you propose to use at one time. When they are thus prepared, add to the whole mass the quantity of sugar you intend to use. Ordinary brown sugar will do very well, and the proportions may be from half a pound to two pounds for each gallon of berries. If you desire a very light wine of the claret order, use very little sugar—if a stronger, heavier-bodied wine, use more; but be careful not to use too much, or you will have a supply of cordial and *not wine*. According to my experience two pounds is the extreme limit. It is very probable a good light wine may be made without any sugar at all, but this I have not tried.

Having mixed the sugar with the berries, then add for each gallon of berries one quart of boiling water, and stir the whole well together. The heat thus communicated to the mass will cause a fermentation to commence without the

use of yeast or any other substance whatever. After standing about twenty-four hours, the seeds and skins will most of them rise to the top and may be skimmed off, and the clear liquid may be drawn off into the casks or other vessels destined to receive it.

The vessels containing the wine should now be removed into a cool cellar or vault, and nothing remains to be done but to allow the vinous fermentation to go through its regular course. This it will do in the course of three or four weeks, and the vessels may then be stoppered or bunged up. I have lost two five gallon demijohns by putting in the stoppers too soon. They exploded and went to pieces.

Wine made in this way will keep well without bottling. Any family, therefore, that can have access to berries (and almost every farmer's family can obtain them) may have a five, ten, or forty gallon cask of excellent wine—worth ten times the same quantity of cider, and a great deal better than the foreign wines which cost them from one to two and three dollars the gallon—at a very small cost of money and labor.

But this is not all; they may also have,

PLENTY OF CAPITAL VINEGAR.

Do not throw away the seeds and skins after drawing off the must. Pour warm water over these until they are entirely covered, and let them stand in an open vessel three or four days. Then draw off the liquid and let that stand until the acetous fermentation takes place. A small quantity of coarse sugar or molasses will hasten the process. In this way a most excellent article of wine vinegar may be obtained; and those who have used the delectable stuff commonly sold by the grocers under the name of vinegar, will consider the quantity thus obtained from the blackberries worth more than the cost of all the materials used for making both the wine and the vinegar.

I do not mean to say that the foregoing methods are the best for managing the blackberry. On the contrary I have only made some rough and rather careless experiments. But I do say *good wine and good vinegar* can be thus made. It is quite probable better methods may be discovered. I trust there may be. A. M. S.

New Albany, Ind. June 4th, 1860.

It is as cheap to raise one ton of grass or clover, as a ton of burdocks or pig weeds.

It costs no more to raise a hundred bushels of Jenetons than a hundred bushels of cider apples; or ten barrels of Virgalieus or Bartleets, than the same quantity of choke pears.

An ax costing two dollars, with which a laborer may cut fifty cords a month, is a cheaper tool than an ax costing but one dollar, and with which he cut only forty cords.

A "cheap plow," at five dollars, costing in one season three dollars for repairs, and three more in lost time to teams and men, and by retarding crops, is a dearer plow than one at ten dollars, requiring no repairs.

[Written for the Valley Farmer.]

The Strawberry Crop of 1860.

BY CAREW SANDERS.

This important and valuable fruit crop is again over for the present year, and some few remarks relative to the merits of varieties, &c. may not be inappropriate.

The season was early—ripe strawberries appearing in our markets the first week in May. The crop has been a good one, and would have been large, but for the severe drought which prevailed the greater part of the season, which materially reduced the size and fulness of the berries, and dried many of the later ones on the stalk almost before they had begun to swell, thus greatly lessening the whole crop. Yet the season opened well, and we think we never saw strawberry plants blossom more fully than they did this year. Of course, a single season is hardly sufficient to test a new or untried variety enough to say whether it is worth cultivating or not, but more especially such a season as the present. We would not condemn any variety by one season's trial; hence some varieties that will be mentioned here, that have a high reputation elsewhere, have proved inferior this year, and may not receive their proper deserts; or, rather, may prove on further trial to be good and valuable.

We shall in this communication speak only of varieties and their characteristics as they appeared to us in our practice.

Earliness is of the first importance, and in a collection of varieties one or more of the earliest is always wanted. The Jenny Lind must be set down as decidedly the earliest of our varieties, being several days earlier than the old standard sorts; the berry is of good size, conical, pointed, of a bright scarlet color, and excellent flavor; a very fine variety; but did not hold out in productiveness as it should do, giving way very early in the season, and affording but a few pickings, which may not be its true character:—left for further trial.

Next in point of earliness comes the Washington, the “pale face” of the Cincinnatians, where, as well as here, it is still grown largely as a market variety. (We have not had the true Early Scarlet so as to compare with the above in point of earliness, but shall be able to do it another season.) The Washington is too well known to need any description. It possesses three good qualities, viz., hardiness, earliness, and productiveness; but lacks three others, viz., size, flavor, firmness; and all these qualities we have in other varieties.

Following close on the above are many others, most prominent of which is the “Albany,” which fully maintains its high reputation; and most assuredly, for large size, extraordinary productiveness, hardiness and general good qualities, the Wilson's Albany stands head and shoulders over all other varieties whatever, so far as we have tried. It is undoubtedly best when cultivated in hills or stools, as it forms a number of crowns, and spreads its broad thick leaves over a large circle, and bears proportionately. We counted on a single plant, two years planted, three hundred berries in all their dif-

ferent stages, and it is not uncommon to pick from twelve to twenty ripe berries at a time from a single plant, averaging three or four inches in circumference. The engravings of this variety, now so well known, are not at all overdrawn. Some of the remarks and exclamations made by persons who saw it on our grounds ran like the following: “It certainly is the Napoleon of strawberries,” says one; “I never saw anything like it since I left Europe, the plants are literally red with fruit,” says another; “In a few years we shall hardly know of any other market variety,” was the remark of a well-known amateur. These, and many other similar exclamations were made, and yet the berries were not near as large as they have been other seasons. And, in market, people show their appreciation of them by purchasing them up at ten cents per quart higher than common varieties: and all these things put together, we have no hesitation in pronouncing it the most profitable market variety now extant.

Hooker's Seedling of which we expected much, we were disappointed in. It bloomed well, and is a true hermaphrodite; but, from some cause or other, the berries did not swell out, were small and imperfect, but now and then a perfect berry revealed to us that it is a large, handsome, rich looking and exquisite flavored variety. Another season we hope for better results; and shall certainly not condemn it, but set it down for another trial.

The Cincinnati varieties maintain their well known excellence, except that with two of them the usual order was reversed. The Superior bore but an inferior crop; while the Prolific bore a large crop of very fine and most excellent fruit. They are both very fine varieties. For a variety to be allowed to grow *en-masse*, there is not a better one than the Extra Red; for productiveness and profit, mainly, we mean; for it is quite soft and of inferior quality, but being of good even size and a brilliant color, it sells very rapidly.

There are several other varieties which possess high excellence in flavor, or some of the other qualities, but do not possess any sufficiently marked qualities to seem to us to deserve extended notice; yet in other localities and in some seasons, some of them might prove equal to some we have mentioned, and be the favorites of some cultivators.

The varieties we have had in bearing this season, besides those named, are Burr's New Pine, Walker's Seedling, Rival Hudson and Monroe Scarlet, all of which are of good quality, without any other particular merit—are good varieties.

Moyamensing Pine is a strong grower, but too unproductive to be worth much; so also of Buist's Prize, we think.

Genesee appears to possess considerable merit, and Old Hovey's Seedling possesses many excellencies still.

We have now growing most of the newest and most approved American and foreign varieties of strawberries, and next season hope to be able to report on some fifty or more varieties, many of which are of high repute in their respective countries.

[Written for the Valley Farmer.]

HORTICULTURAL NOTES AND GLEANINGS.

BY CAREW SANDERS.

SHADE TREES FOR DOOR YARDS.

Of all the trees that are commonly employed for this purpose, we think one of the meanest and most detestable is the Yellow Locust.

We object to it for the following good reasons:

1st. It gets eaten up by the borer, the limbs being perforated in all directions—old trees as well as young—this renders the branches and limbs so liable to be broken off by the wind.—2nd. It throws up suckers all over the ground where it is planted, requiring constant care to keep them down, or spoiling the object for which the trees were planted, *viz.*: a place to walk or sit in the shade and on the grass for rest and repose. 3d. It is constantly throwing off small branches which keep the grass underneath strewed with thorny dry pieces of brush, &c. making it exceedingly annoying to walk on, especially for children. 4th. It is liable at every high wind to have large branches torn off and scattered round, making the tree a ragged, unsightly thing, and often rendering it so thin as to afford but little of the desired shade. Severe winters also destroy many of the buds, and cause the foliage to be thin and bare during summer.

Some of these defects may be remedied by occasional topplings; but, for our part, we would never plant them round or near the house. Let those who want them for posts or timber, plant them in groves, or belts, or avenues, if they please; but keep them from the door yard is our advice.

But as shade in summer is grateful, it should be the first object of the resident in the country to secure it. If any of the native trees, as oaks, can be saved, do so; but if not, then plant the Maple, the Elm, the Sycamore, or even the Catalpa or Ailanthus, in preference to the Locust. One of the handsomest trees in all the American forests is the Sugar Maple, and the Silver is scarcely less so. This and the Silver Leaved Poplar, might be planted for their rapid growth, while some of the slower growing, but more durable and perhaps more ornamental kinds, might also be planted, as the broad, spreading sturdy Oak, Beech, Chestnut, &c. to take the place of the others in the next generation.

THE NEWER VERBENAS.

Improvement is still yearly taking place in this little favorite, this best of all flowers for summer bloom.

Years ago, people thought it had reached a perfection, beyond which it was impossible to go. Ten years ago we had flowers of large size and good form, and of most brilliant and varied colors.

The principal feature of improvement that has been going on in the last few years, is in the production of varieties having large and conspicuous eyes. Thus we have scarlet and purple and other colored flowers, with large white eyes; some also with dark crimson, violet, or vermillion, or even yellow eyes. This gives the trus-

ses, when seen at a little distance, the appearance and beauty of the Auricula; or like so many spots of white or dark in the centre of each pip, with some other widely contrasting color, producing a most lively and agreeable effect. Striped varieties are also of modern origin, that is, of various colors in the stripes, as pink white, blue, lilac, &c. And, lastly, we have fragrant varieties. Many persons have doubted the existence of fragrance in the verbena, but some varieties certainly possess a strongly marked and beautiful primrose fragrance, that adds a charm to their already well-deserved fame.

We give a list of a dozen of the best varieties, embracing the leading colors:

Mrs. Woodruffe—Brilliant scarlet, very large,

Mrs. Holford—Pure waxy white, large flower, best.

Geant des Battailes—Deep crimson, darker centre, extra fine.

Victory—Bright rosy like, conspicuous white eye.

Brilliant de Vaise—Crimson shaded, violet centre, fine.

Etonian—Rich deep indigo purple, large white eye.

Ruby Queen—Bright carmine, large light eye.

La Favorite—Light purple, and white eye, fine.

Glorie de Bellevue—Vivid crimson meroon, with white eye, best of its class.

Etoiles des Jardines—Rich satin rose, with a large bright yellow eye, large flower and trusses, extra fine.

Cherub—Scarlet vermillion, yellow eye, very fine.

Leviathan—Purple, with large white centre.

Sarah—Striped, lilac and white.

Imperatrice Elizabeth—Bright red, with white stripes.

Madame Lemounir—Light pink and white, striped.

Out of the hundred of named varieties there are of course many other fine ones. But the above are among if not the best.

THE KNOX HORSE HOE.

One of the most effective little instruments in use on our place is the Knox horse hoe. It almost takes the place of the little plow, the cultivator and hoe at once. We hadn't fully realized its merits until this season; and now we would not be without it for any consideration. With the hoe alone, we can run between narrower rows (18 inches) than with any other implement, skimming off the weeds and breaking up the crust most handsomely. Both the hoe and the two small but stout shares, run along under the surface, cutting up the ground; but do not push the soil, and roll and tumble the clods about like the cultivator; hence, it does not cover small plants in rows, like that implement. Then with the two little plow-like shares, which may be reversed either to throw the earth towards the centre, or to the middle, as may be required, it cuts up and pulverizes the ground deep and fine. With the shares turned outward, it raises a small ridge, just right for many things; but when turned inward, it can be run quite close to the plants without injury:

for one of its good features is, that it runs remarkably steady. While from the form of the shares and hoe, their strength, and ease of draft, ground that is too hard for a one-horse plow may be broken up, and rendered cultivable.

FINE GOOSEBERRIES.

Dr. C. W. Spalding has sent for our inspection (doubtless intended as a refutation of the position we took in the last number in relation to this fruit) a branch of a gooseberry bush, laden with fruit, the receipt of which we are glad to acknowledge. The berries were nearly ripe, much larger than the Houghton, and of better flavor, smooth skin and green color, evidently a much better variety than the Houghton. The foliage was entirely free from mildew, and we are assured by the Doctor that he has never known it to mildew. We should judge from the appearance of the foliage, that it is a foreign variety, and although larger than the Houghton it is by no means of *large* size, nor do we consider it conclusive that it will uniformly succeed here, as we have seen the Whitesmith, a large English variety, occasionally resist the mildew and ripen its fruit here. If this kind is as uniformly free from blight and mildew as the Houghton, it will be a decided acquisition.

What we want is a variety, or varieties, of the largest size, and of the best quality, that we can venture to plant out by the acre, to supply our markets.

[Written for the Valley Farmer.]

Meramec Horticultural Society.

June 7th, 1860.

The eighteenth monthly meeting was held as above, at the house of L. D. Votaw.

In consequence of the sickness of the President, the chair was occupied by Vice-President, J. C. Blakey.

The meeting was held under a magnificent elm tree, on the bank of the Meramec river, the branches of which overspread a space 125 feet in diameter. The table was beautifully decorated with flowers.

The Minutes of the former meeting were read and approved. Four new members were elected. A communication from the President was read. The following reports were presented by the several committees:

RASPBERRIES.

Exhibited by Mr. Benton—American Black Cap, from wild bushes; in good condition, but small.

By E. Vaughn—Cultivated American Yellow and Black Cap, much larger and more juicy than the preceding.

By Dr. McPherson—Raspberries, known in the vicinity as Large English Red; early, large, rather soft, not high flavored.

STRAWBERRIES.

By L. D. Votaw—Wilson's Albany, from plants set out last spring; small.

The unripe Chickasaw plums from Dr. McPherson, show conclusively that said variety may be stung by the curculio without injury.

L. D. MORSE, Chairman Fruit Com.

VEGETABLES.

There were presented by Mr. E. Vaughn, a sample of White Sprout Potatoes, of fair size, fit for table use; and of Marrowfat Peas, extra large and fine.

By L. D. Votaw—Sugar Beet, very fine and large for the season. Turnips, good; and Rhubarb, supposed to be Scotch Hybrid.

By Dr. A. W. McPherson, a sample of Snap Beans—fine. T. R. ALLEN, Chairman, V. C.

FLOWERS.

There were four fine bouquets presented by Mrs. Seymour, Mrs. Blakey, Mrs. Beal and Mrs. Fry, composed of some of the finest flowers of the season. Petunias, Verbenas, Heliotropes, Coreopsis, Escholtzia, Spirea, Dianthus, Delphinium, Reseda, Chinese Pink, Flowering Moss, Spiderwort, Roses, &c. &c. making a display indicative of a growing taste for floral gems in this section.

W. MUIR, Chairman, F. C.

The meeting adjourned for dinner.

The afternoon session was opened by Mr. T. R. Allen, stating that the subject for the discussion of the day, "THE TREATMENT OF NEWLY PLANTED ORCHARDS AND VINEYARDS," was one in which he and some others in the meeting were particularly interested at the present. He had planted out a considerable number of trees and grape vines this season, and the drought had been extremely severe; and now information as to the best mode of treatment was of the utmost importance. For himself, he wished to hear the subject of mulching entered into. If it is best to mulch—when to mulch—and with what to mulch.

Dr. L. D. Morse said, I think that during the recent extremely dry weather, much benefit would have resulted from mulching; and where the mulch had been applied early, would suggest its removal in order to stir the soil thoroughly, and re-apply it during the hot weather of June and July. Vineyards need it as much as orchards. If mulch is not used, the soil should be stirred after every rain—as a rule, frequent stirring the soil will amply repay the labor. Root crops may perhaps be raised with benefit, as they at once shade the soil and secure its cultivation; but the grasses and grain crops, excepting corn, should never be admitted into the orchard or vineyard.

In answer to the question, How far around the tree or vine should be mulched, he said, if the plants are set 3x5, 4x6, or 6x8, that about the whole space should be covered, say three inches deep, with short cut straw, forest leaves, or coarse manure.

Mr. Allen asked if sawdust would be a good mulch.

Mr. W. W. Pelton regards mulching as a lazy man's method. I have planted from fifty to sixty thousand trees, and have found that the best method to adopt, after properly planting, is to stir the soil. Keep stirring it constantly, and there is no need of mulching in any ordinary season. If trees are mulched, I certainly think to remove the mulch frequently to stir the soil, is essential. To mulch in spring and leave it during the whole season, is culpable negligence.

Mr. L. D. Votaw thinks, that during the first two years, a crop of corn or potatoes may be raised with advantage. He had tried several modes in planting out a young orchard, and found this the best. Corn, he thinks, perhaps the best of any, because of the shade it affords the ground and the plants, and because it remains, unlike grass or small grains, till late in the season, and is ripe for removal just when both the ground and plants require more sun.

Mr. Bicknel thinks, that planting corn in a young orchard is more profitable than mulching, and this is especially the case in a small and new place.

Dr. Morse thinks corn makes too much shade.

Mr. N. J. Colman expressed his happiness to have it in his power to coincide so much with the views of the gentlemen who had spoken before. He was glad to hear the culture of the soil and the importance of mulching so uniformly enforced. He thought it far better for a man to plant out only twenty or fifty trees, and give them good attention, than 200 or 1000 and neglect them. He was sorry to find trees planted in sod so frequently, and thought that there would be much less complaint against nurserymen about bad trees, if there were more care in the selection of their position, in the proper preparation of the soil where they are to be planted, and in their after cultivation.

He said, persons generally paid much attention to a crop of onions, beets, or corn, which last only for a season, while a fruit tree for which they paid from 25 cents to a dollar, and which

proved a source of wealth and pleasure for a lifetime and could be handed down to one's children, and children's children, was left in most cases in total neglect.

In regard to mulching, it is highly beneficial, and sawdust forms an excellent material for an orchard: containing many essential elements of which the future tree is composed. We find that where the soil is shaded by leaves or any other article, it is moist and friable, whether under a pile of cordwood, a mass of leaves, or under a simple cover of boards.

There is another subject, and which is a very important one, in the proper discussion of the treatment of newly planted trees, that has not yet been touched, which is pruning. Form low heads: this is essential to a fine orchard. The limbs thus shelter the stems from the sun. Never use the ax or saw, and use the knife even as little as possible. In conversation with Mr. Wm. Saunders, of Germantown, Pa., recently, one of the most intelligent horticulturists in America, he said that his attention had been directed to this fact but a few years ago, and he now was firmly convinced that the knife even had no business in the orchard. He uses the finger and thumb in summer, whenever a shoot or spur indicated it, and thus there was no need for the knife. His pear trees are the finest in the country. Of course, in planting out the trees, the knife must be used to give a proper balance between the amount of head and root. Mulch well; wash the stems well with soap or lye occasionally; cultivate well, and you will have ample returns for your labor. Then, young trees need protection from rabbits during winter. Tar is dangerous; perhaps, the easiest method is to take newspapers and tie them round the stem; rye straw, or bark will do.

Dr. Morse thinks, that by stirring the soil the sun enriches it, by aiding the capillary attraction, which during a drought brings up fertilizing salts which are held in solution in remote depths of the soil. In this way a drought may be very beneficial to the soil, and doubtless generally is.

Mr. Airey thinks, that mulching and manuring are some of the extravagances of modern horticulture, and only tend to needless labor and expense; nature recognizes neither the one nor the other; stirring the soil and rotation of crops is the true theory.

C. Pafrath thinks, that Mr. Airey is always on an extreme, and is an excellent advocate of a lazy man's farming. He could tell him from experience that the more labor and manure were expended, the more return would be obtained. Mr. Airey once tried manure, and he thought he could not give too much of a good thing. His potatoes that year did nothing, and hence he concludes that manure never does any good. But I have found that manure judiciously applied is essential to successful cultivation.

The Secretary remarked, that in the use of sawdust, more particularly fresh oak sawdust there is danger.—In Oak there is so much acetic acid, that if applied in excess, it is so apt to become concentrated, and thus destroy vegetative life. Other sawdust, as of Linn and Maple, would not be so dangerous—but all would require to be fermented, or be thoroughly impregnated with liquid manure, and undergo decomposition to some extent.

In regard to the question, as to the treatment of young vines when they push more buds than two, I rub them off, let two remain till I can tie the strongest to the stake, then stop it by pinching off. Tie regularly to the stake as it advances its growth; pinch off all laterals at the second leaf; in the end of August pinch back the main shoot; and when it has ceased growing in the fall, prune back to three eyes, and cover up for the winter with leaves, straw, or a heap of earth.

The Executive Committee reported as a subject for the next meeting, "Small Fruits."

The chairman announced the next meeting to be held at the house of J. C. Blahey, Eureka, on the first Thursday of July, at 10 A.M. On motion, the meeting adjourned.

WILLIAM MUIR, Sec.

The Apiary.

[Written for the Valley Farmer.]

HINTS FOR THE MONTH.

BY J. W. QUINBY.

In some sections of the country, a disease known as ROUL BROOD, is liable to attack the larvae of the honey bee. Since this is one of the greatest obstacles to successful bee-culture, the inexperienced should early familiarize themselves with its nature and treatment. Weak hives should be watched with reference to this point, and if at any time no satisfactory reason can be assigned for their want of strength, let them be examined at once. Proceed as if examining for indications of swarming; spread the combs apart, and, with the point of a knife, open some of the cells containing brood. These may always be found near the centre. In case of disease, a portion of the contents which should be white and fresh, will be found dark colored and putrid. It is generally useless to attempt to preserve an infected stock; it being far better to remove the bees and secure the honey without delay. It is best to make an examination with this view about twenty-two days after the departure of the first swarm, for the reason, that, as the first issue is almost invariably led by the old queen before her successor is prepared to assume the maternal duties of the hive, several days will elapse during which no eggs will be deposited in the combs, therefore, all the cells used for breeding, or nearly all, should be uncapped and empty at the end of that time, unless the growth of the brood has been unusually retarded by cold. Diseased colonies should be driven out as soon as discovered, in order that the bees may have as much time as possible for storing honey in their new hive. To drive, turn the hive bottom up, and having placed an empty one over it to receive the bees, the joint being made tight by corking, if necessary, give it three or four smart taps, hard enough to arouse the bees but not to break the combs. Having waited four or five minutes for the bees to fill themselves with honey, renew the rapping and continue it for a quarter of an hour or more, when the upper one may be taken off and nearly if not all the bees will be found to have ascended into it. Repeat the operation, if all do not go up the first time. Set the new hive where the old one stood, and the bees will commence work as if they had really swarmed. Although the honey taken from combs containing diseased brood, if fed to a healthy swarm, will impart the contagion, it has been proved by repeated experiments that that carried away by the old bees when they swarm naturally, or are driven out as just described, will not injuriously affect them. It is supposed that the virus is evaporated or destroyed before the new combs contain young brood. The honey left in the old hive should be strained as soon as possible; for, in warm weather, if left in the comb, it is soon attacked by worms. If this be boiled and skimmed it may be fed to healthy stocks without danger.

Boxes should be taken off as soon as filled, to prevent the bees from soiling the combs by continually creeping over them. Supply their place with others, as long as the bees continue to work. In sections where buckwheat is raised, it is frequently a good policy to take off boxes containing pure white honey, even if no more than two-thirds full, in time to save it from being colored with the dark and inferior product of this plant.

To take off boxes, provide yourself with some kind of smoking apparatus, break the glue or propolis, with which the bees cement the box to the top of the hive, by gently raising it with the point of a knife, blow in a little smoke, and carefully remove it. It is sometimes a more difficult work to get rid of the bees. If the yield of honey in the fields is abundant, they will soon leave of their own accord; but if this is not the case, and, indeed, as a general rule, it is safer to protect the honey from robbers. Some put the boxes in a barrel or hogshead, and throw a sheet over the

top, which may be turned as often as the bees cluster thickly upon it; others set a number together on the ground with blocks on them to prevent the closing of the holes, and throw a sheet over them, on which the bees will gather as above; others, still, put them in some small room or chamber, with a swinging window, which may be opened as the bees collect upon it. Care should be taken to handle boxes of honey very gently; not to leave them in the sun; and not to turn them so as to bring the combs in a horizontal position or flatwise, lest they be crushed by their own weight.

St. Johnsville, 1860.

Domestic Department.

CONNECTICUT DOUGHNUTS.—One quart of milk, one pint of melted lard, one pint of yeast, one and three-quarter pounds sugar, five eggs, one nutmeg, one teaspoonful of saleratus, one tablespoonful of salt. When wet, knead together and set in a warm place to rise.

CUSTARD PUDDING.—Two spoonfuls flour, six eggs, one pint of cream, a little sugar, one nutmeg. Boil half an hour.

BOILED PUDDING.—One quart of milk, nine eggs, seven spoonfuls flour, a little salt. Put in a bag and boil three-quarters of an hour.

COOKIES.—One cup of sugar; one of butter; two of eggs; flour sufficient; roll them in flour and sugar; add spice or nutmeg; bake quick.

POTATO PUDDING.—Two pounds of potatoes, boiled and sifted, three-fourths of a pound of sugar, half a pint of cream, seven eggs, and nutmeg.

SUNDERLAND PUDDING.—Six eggs, one pint of cream, a little salt, four tablespoons of flour, and nutmeg. Bake one hour, and eat with sweet sauce.

ORANGE TART.—Squeeze two oranges and boil the rind tender; add half a teacup of sugar, and the juice and pulp of the fruit, an ounce of butter; beat to paste. Line a shallow dish with light puff crust, and lay the paste of orange on it.

RHUBARB TARTS.—Peel and slice the rhubarb, sweeten to taste, and fix as a gooseberry tart. They are very delicious.

RHUBARB PIE.—Take the tender stalks of the rhubarb, strip the skin, and cut the stalks into thin slices. Line deep plates with pie crust, then put in rhubarb, with a thick layer of sugar to each layer of rhubarb and a little grated lemon peel, press it down tight round the plate, and prick the crust with a fork, so the crust will not burst while baking, and let out the juice of the pie. Rhubarb pies should be baked about an hour, in a slow oven; it will not do to bake them quick. Some cooks stew the rhubarb before making into pies, but it is not so good as when used without stewing.

BAKED WHEAT PUDDING.—Beat well three eggs, add one teacup of sugar, two cups of sour cream, flour to make a stiff batter, one teaspoonful saleratus, a little salt. Bake in a quick oven; eat with sugar and cream.

POLKA CAKE.—Two cups of sugar; two of butter; four of flour; four eggs; half cup of molasses; teaspoonful of saleratus in a cup of milk, and a pound of raisins.

CURDS AND WHEY.—Infuse a piece of rennet in a little boiling water, as for making cheese; let it stand an hour or two; then put a tablespoonful to three pints of new milk warmed. Cover with a cloth, and

leave until the curd is thick. Press out and use the whey, or sweeten and use both whey and curd. This makes a very nice dessert for dinner.

DRYING RHUBARB.—Rhubarb dries very well, and when well prepared will keep good for an indefinite period. The stalks should be broken off while they are crisp and tender, and cut into pieces about an inch in length. These pieces should then be strung on a thin twine and hung up to dry. Rhubarb shrinks very much in drying, more so than any other plant I am acquainted with, and strongly resembles pieces of soft wood. When wanted for use it should be soaked in water over-night, and the next day simmered over a slow fire. None of its properties appear to be lost by drying, and it is equally as good a sauce in winter as that made from any other dried fruit. The consumption of rhubarb is rapidly increasing in our cities and villages, as its merits become known. It is the most wholesome plant I know of, and makes dumplings and pies that might tempt an epicure.

CHEAP CAKE.—One cup of sugar, one of buttermilk, two ounces of butter, one teaspoonful of saleratus, essence of lemon; stir in flour till quite stiff; beat the mixture well before baking.

WHITE CAKE.—One and a half cups of sugar, one of milk, two of flour, four tablespoonfuls of butter, one teaspoonful of cream tartar, one half do. of soda, and the whites of three eggs.

SODA FRIED CAKES.—One cup of milk, two of sugar, three eggs, two teaspoonfuls of cream tartar, one of soda.

COOKIES.—One cup of butter, two of sugar, two eggs, one teaspoonful of saleratus dissolved in two tablespoonfuls of milk.

LOAF CAKE.—One pint of bread sponge, one cup of sugar, one of butter, three eggs, one tablespoonful of saleratus; spice to the taste. Mix thoroughly, but not very stiff, and bake when light. It is much improved by adding raisins.

QUINCE AND APPLE JELLY.—Cut small and core an equal weight of tart apples and quinces: put the quinces in a preserving kettle, with water to cover them, and boil till soft; add the apples, still keeping water to cover them, and boil till the whole is nearly a pulp; put the whole into a jelly bag, and strain without pressing.

TO FASTEN ON THE HANDLES OF KNIVES AND FORKS.—The handles of knives and forks that have come off by being put in hot water, may be fastened in the following manner: Procure some powder and resin, and mix with a small quantity of chalk, whiting or quick lime, let the handles be about half-filled with this mixture, heat the ends of the knives or forks, and force them in, when they will be found securely fastened. N. B.—Knives and forks that are not fastened to the handles by rivets should not be put into hot water.

OR.—Take a small portion of a quill pen, and put into the handle of the knife, warm the blade, and when it is hot put into the quill in the handle, and press it in firmly: that is a very simple method, but it has been found to answer the purpose required several times.

An imitation of Cream Cheese from buttermilk is made by keeping the buttermilk until it begins to whey at top; then pour it into a cloth, and let it stand in a large cheese vat, and if the buttermilk runs through the cloth the first and second time, when it has done running pour it in again. It must be changed into a clean cloth once a day, and when the whey has partly done running, put it into a smaller vat, and turn it daily till it is almost dry, and then it is fit for use.



[Written for the Valley Farmer.]

THE HOME SCHOOL.

Life is a school. This is doubtless the best and truest view of it. And in the great life-school as organized in civilized, Christian society, there are three departments, to conduct the triune system of education that relates to the Head, the Hand and the Heart.

The Head is educated chiefly in the day-school, the academy and college, through the instrumentality of teachers, books, maps, charts, apparatus and the various paraphernalia of the school house and college.

The Hand is educated largely in the trades and arts and labors of life. The farm, the shop, the studio, cultivate the hand and develop its cunning power. By them it is taught to work in iron, brass, silver, and gold; in wood, rock, marble and gem; in flax, cotton, wool and silk; in every material that grows and every element and gas discernible by its curious instruments. It is taught to produce all forms, colors and sounds conceivable by the human mind.

The Heart is educated mostly in the Home and Church. And the church is but the hand-maid of home, to help in the beautiful and holy offices of the heart's education. It is in the home the young affections bud and blossom and bear fruit. It is here that conjugal love seeks and finds, if it finds at all, its paradise. It is here, parental affection is born, lives, toils, watches, suffers, sacrifices and prays. It is here, filial love first breathes the breath of life and is warmed into holy strength by a father's wisdom and a mother's tenderness. It is here fraternal interests grow and cluster, and all that is beautiful in aspiration, tender in love, and holy in religion, exercises its virtuous sway. Whatever is true and lovely and good on earth has its root in home. Home is indeed the great heart-school of life. But if this is a bad school, what work does it make of the heart's education. If it teaches lessons of falsity, cruelty, bitterness, deception, fraud, hypocrisy, profanity, coarseness, irreverence, peevishness, vanity and sin—how falsely does it use its office, and how cruelly does it cheat its inmates of the best good of life. If we have no God on the home altar, no love in the home intercourse, no law of duty in the home government, no Golden Rule to guide, no great first commandment to impress, no Lord's prayer to elevate and sanctify, no Sermon on the Mount to inspire and purify, no gospel of good will to cheer and encourage to good aims

and offices the inmates of home—how deficient is the home education!

Feeding, sleeping and clothing are not the all of home. The affections that stir the heart and the lessons that instruct and inspire it are the great essentials of the home life. How to live happily and well, how to live and do good, how to forbear and forgive, how to yield and conciliate, how to assist and bless, how to sympathize and suffer for another, are the great lessons of the true home-school. Here we take our first lessons in patience, and here are given the teachings of trial, sorrow and affliction. Grief pours its bitter tears, and bereavement mourns its severe losses, in the heart of home. Here pity sheds its sweetest dews, and prayer lifts its holiest hands. Here gather the noblest virtues, and come the loveliest graces to crown the hearts that well deserve them. Grand are the lessons and holy are the influences of a true home—a home where love hallows all hearts and tempers and sweetens all speech. Life is a privilege in such a home; it is a rich opportunity, a holy joy. From such home-schools never graduate the coarse, vulgar and profane. From such never go out the craven, base; the vagabonds of low life and the criminals of high. Those who are reared in such homes are the ornaments of society, the pillars of the church and State. They give grace and peace, order and stability to the finest works of civilized life; and they enjoy what is enjoyed on this fair earth. Let the home-school be cherished; let its beautiful lessons be taught and repeated, let its salutary influences be encouraged and strengthened, till every home shall resemble the true home, and be at least a faint symbol of the final home in heaven. *

[Written for the Valley Farmer.]

HOME SURROUNDINGS.

There is an inside and an outside to every home: there is what the passer by sees, and what the home folks both see and feel; there is in-the-house, and around-the-house. We want to speak just now of that which is around the house. We do not mean to say that the outside is so important as the inside of a house; but simply that while the inside is carefully put in order, the outside should not be wholly neglected. If a woman is beautiful in spirit, cultivated in mind and manners, and lovely in form and feature, we should feel it almost wicked for her to dress herself as a slattern, to appear uncombed and unwashed in society, to entirely neglect her personal appearance. The very contrast between her real self and her outward appearance would disgust us. We should certainly feel that something was wrong. Just so is it with a house. If it is clean, orderly, tasteful, well-furnished and managed within, with love and wisdom presiding in its councils and at its feasts, while it is low, filthy and *djestaeful* without; we feel that something is wrong. There is not a proper arrangement between the inside and the outside. Precious gems are not set in surroundings of iron and wood. "Words fitly spoken are like apples of gold set in pictures of silver;" so are true homes set in lovely surroundings.

The out-door side of home should be especially cared for. The fences and yards should be put in order. The shrubbery should be trimmed; the vines pruned; the grass-plats raked and swept; the walks fringed with beds for flowers and shrubs; roots and trees planted; flowers sown; vines put in; standards and lattice work provided for vines and creepers; and the whole outside dressed up in beautiful summer garments. All unsightly objects should be removed; all tasteful and pleasant ones should be provided as far as is in keeping with the house and time and means of its occupants. In a word, the surroundings of home should be made agreeable and beautiful. Not only will passers by enjoy it more, but the inmates of home will be happier and more cultivated. The influence of home will be healthier and higher. The children will like home better. It will possess more attractions. Husband, wife, friends, all will value home more. It will be worth more and do more good. We say to all, beautify your homes. *

HINTS FOR TRAVELERS.

At this season many persons contemplate traveling; to do so with the largest amount of comfort and advantage, physical, social and mental, the following suggestions are made:

Take one-fourth more money than your actual estimated expenses.

Acquaint yourself with the geography of the route and region of travel.

Have a good supply of small change, and have no bill or piece higher than ten dollars, that you may not take counterfeit change.

So arrange as to have but a single article of luggage to look after.

Dress substantially; better be too hot for two or three hours at noon, than to be too cool for the remainder of the twenty-four.

Arrange, under all circumstances, to be at the place of starting fifteen or twenty minutes before the time, thus allowing for unavoidable or unanticipated detention on the way.

Do not commence a day's travel before breakfast, even if that has to be eaten at daylight. Dinner or supper, or both, can be more healthfully dispensed with than a good warm breakfast.

Put your purse and watch in your vest pocket, and all under your pillow, and you will not be likely to leave either.

The most, if not only secure fastening of your chamber door is a common bolt on the inside; if there is none, lock the door, turn the key, so that it can be drawn partly out, and put the wash basin under it; thus, any attempt to use a jimmy or put in another key, will push it out, and cause a racket among the crockery, which will be pretty certain to rouse the sleeper and rout the robber.

A sixpenny sandwich eaten leisurely in the cars is better for you than a dollar dinner bolted at a "station."

Take with you a month's supply of patience, and always think thirteen times before you reply once to any real or supposed rudeness or insult, or inattention.

Do not suppose yourself specially and designedly neglected, if waiters at hotels do not bring what you call for in double quick time; nothing so distinctly marks the well bred man as a quiet waiting on such occasions; *passion proves the puppy.*

Do not allow yourself to converse in a tone loud enough to be heard by a person at two or three seats from you; it is the mark of a boor if in a man, and of want of refinement and lady-like delicacy, if in a woman. A gentleman is not noisy; ladies are serene.

Comply cheerfully and gracefully with the customs of the conveyances in which you travel, and of the places where you stop.

Respect yourself by exhibiting the manners of a gentleman and a lady, if you wish to be treated as such, and then you will receive the respect of others.

Travel is a great leveller; take the position which others assign you from your conduct rather than from your pretensions.—[*Hall's Journal of Health.*]

PROVERBS OF ALL NATIONS.

Proverbs on love in English are for the most part sarcastic or jocular, and few of them can be compared, for grace and elevation of feeling, with those of Italy. We have no parallels in our language for the following: "Love knows no measure—there are no bounds to its trustfulness and devotion;" "Love warms more than a thousand fires;" "He who has love in his heart has spurs in his sides;" "Love rules without law;" "Love rules his kingdom without a sword;" "Love knows not labor;" "Love is master of all arts." The French have one proverb on the sovereign might of love, which they borrowed from the sublime phrase in the Song of Solomon, "Love is stronger than death;" and another expressed in the language of their chivalric forefathers, "Love subdues all but the ruffian's heart."

Marry in haste and repent at leisure.

This proverb probably came to us from Italy; but, alas! it happens too often in all countries that "Wedlock rides in the saddle and repentance on the croup." (French.)

Better a tocher [dower] in her than w' her.— (Scotch.)

A man's best fortune or his worst is his wife.

"The day you marry you kill or cure yourself." (Spanish.) "Use great prudence and circumspection," says Lord Burleigh to his son, "in choosing thy wife, for from thence will spring all thy future good or evil; and it is an action of life like unto a stratagem of war, wherein a man can err but once."

The gude or ill hap o' a gude or ill life,
Is the gude or ill choice o' a gude or ill wife. (Scotch.)

There is a Spanish rhyme much to the same effect:

Him that has a good wife, no evil in life that may not be born, can befall.
Him that has a bad wife, no good thing in life can chance to, that good you may call.
Put your hand in the creel, and take out either an adder or an eel.

That's matrimony. "In buying horses and taking a wife, shut your eyes and command

yourself to God." (Italian.) "Marriages are not as they are made, but as they turn out."—(Italian.)

There's but a gude wife in the country, and ilk a man thinks he's got her. (Scotch.)

It is a pleasant delusion while it lasts, and it is not incurable. Instances of complete recovery from it are not rare.

A man may woe where he will, but must wed where he's weird. (Scotch.)

That is, where he is fated to wed. This is exactly equivalent to the English saying,

Marriages are made in Heaven, the meaning of which Dean Trench appears to me to mistake, when he speaks with admiration of its "religious depth and beauty." I cannot find in it a shadow of religious sentiment. It simply implies that it is not forethought, inclination, or mutual fitness that has the largest share in bringing man and wife together. More efficient than all these is the force of circumstances, or what people vaguely call chance, fate, fortune, and so forth. In the French version of the adage, "Marriages are written in heaven," we find the special formula of Oriental fatalism is everywhere the popular creed respecting marriage. Hence, as Shakspeare, says Dr. J. G. Holland:

The ancient saying is no heresy—
Hanging and wiving go by destiny.

Old pottage is sooner heated than new-made.

NAMES OF THE MONTHS.

The names of the months were given by the Romans.

January, the first month, was so called from Janus, an ancient King of Italy, who was deified after his death; and derived from the Latin word Januaries.

February, the second month, is derived from the Latin word Februo, to purify, hence Februario: for this month the ancient Romans offered up expiatory sacrifice for the purifying of the people.

March, the third month, anciently the first month, is derived from the word Mars, the god of war.

April is so called from the Latin Aprilus, i. e., opening: because in this month the vegetable world opens and buds forth.

May, the fifth month, is derived from the Latin word Majores, so called by Romulus in respect toward the Senators; hence Maies or May.

June, the sixth month, from the Latin word Junius, or the youngest of people.

July, the seventh month, is derived from the Latin word Julius, and so named in honor of Julius Caesar.

August, the eighth month, was called in honor of Augustus, by a decree of the Roman Senate, A. D. S.

September, the ninth month, from the Latin word Septem, or seven, being the seventh from March.

October, the tenth month, from the Latin word Octo, the eighth, hence October.

November, the eleventh month, from the Latin word, Novem, nine; being the ninth month from March.

December, the twelfth month, from the Latin of Decem, ten; so called because it was the tenth month from March, which was anciently the manner of beginning the year.

DOCTORS WHO NEVER DISAGREE.—"Pshaw!" says the reader—"Doctors that never disagree, indeed! where will you find them?" "Sir or madam" there are healers outside of the Academies of Medicine. Permit us to introduce to you those three eminent physicians, Doctors Diet, Regimen and Exercise. They derive their diplomas from an institution of which you may have heard—though we confess it is held in small estimation by many of the licentiates of the medical schools—the college of Nature. They are a noble team, and never pull one against the other. Doctor Diet prescribes; Doctor Regimen regulates; Doctor Exercise shakes up the patient in a friendly way, and thus assists digestion. Together they promote that very desirable condition of humanity indicated by the phrase, "a sound mind in a sound body." Probangs may be good—no probangs may be better. In a case where science is divided against itself, it is not for us to decide. But we are quite sure that simple food regularly taken, is promotive of health, and that proper muscular exertion expands and invigorates the lungs and assists digestion. They may not, perhaps, cure consumption, but they often prevent it. For dyspepsia, nervousness, and all that sort of thing, they are (to borrow an expression from the Quack's Vocabulary) "perfectly magical." Permit us then to recommend as family physicians, our old and well beloved medical friends, Doctors Diet, Regimen and Exercise. We have summered and wintered with them, "know them like a book," and can conscientiously indorse them. They exact no fees, have no alliance with the apothecary, and if antiquity is any recommendation of a system, theirs was in successful operation centuries before Hippocrates was made a dem-igod or Paracelsus begotten. Try them.

LEARN ALL YOU CAN.—Never omit any opportunity to learn all you can. Sir Walter Scott said, even in a stage coach he always found somebody to tell him something he did not know before. Conversation is generally more useful than books for the purpose of knowledge. It is, therefore, a mistake to be morose or silent, when you are among persons whom you think ignorant; for a sociability on your part will draw them out, and they will be able to teach you something, no matter how ordinary their employment. Indeed, some of the most sagacious remarks are made by persons of this description, respecting their particular pursuit.

Hugh Miller, the famous Scotch Geologist, owes not a little of his fame to the observations, made when he was a journeyman stone-mason and worked in a quarry. Socrates well said that there was one good, which is knowledge; and but one evil, which is ignorance. Every grain of sand helps to make the heap. A gold digger takes the smallest nuggets, and is not

fool enough to throw them away because he hopes to find a huge lump elsewhere. So, in acquiring knowledge, we should never despise an opportunity, however unpromising. If there is a moment's leisure, spend it over a good or instructive thing with the first person you meet.

—[*Educational Herald.*]

[Written for the Valley Farmer.]

SCATTERED THOUGHTS.

The soul of childhood is pure white, and will take any color that touches it, or be stained by any impure thing.

Teach your children to help themselves, and they will seldom need the help of others.

Knowledge is proud that it has learned so much; wisdom is humble that it knows so little.

Nothing is more becoming in the young than respect for elders; nothing is more becoming in the old than love for the young.

To contradict every thing we do not, is always to be kicking against the pricks.

To be snappish like a cross dog, is to get often bit.

The first mis-step is the beginning of all our troubles.

The bravest man is he who can do the most good with the least expectation of reward.

HOW TO PROSPER IN BUSINESS.—In the first place make up your mind to accomplish whatever you undertake; decide upon some particular employment and persevere in it. All difficulties are overcome by diligence and assiduity.

Be not afraid to work with your own hands, and diligently too. “A cat in gloves catches no mice.” He who remains in the mill grinds, not he who goes and comes.

Attend to your business, never trust to another. “A pot that belongs to many is ill-stirred and worse boiled.”

Be frugal. “That which will not make a pot, will make a pot lid.” “Save the pence and the pounds will take care of themselves.”

Be abstemious. “Who dainties love shall beggars prove.”

Rise early. “The sleepy fox catches no poultry.” “Plow deep while sluggards sleep, and you will have corn to sell and keep.”

Treat every one with respect and civility. “Everything is gained and nothing lost by courtesy.” “Good manners insure success.”

Never anticipate wealth from any other source than labor; especially never place dependence upon becoming the possessor of an inheritance. “He who waits for dead men's shoes may have to go a long time barefoot.” “He who runs after a shadow hath a wearisome race.”

Above all things never despair. God is where he was. “He helps those who truly trust in him.”

Where twenty persons have stomachs, but one has brains—hence brewers grow rich, while editors remain poor.

NUMBER ONE.

One hour lost in the morning by laying in bed will put back all the business of the day.

One hour gained by rising early is worth a month in a year.

One hole in the fence will cost ten times as much as it will to fix it at once.

One diseased sheep will spoil the whole flock.

One unruly animal will teach all others in company bad tricks.

One drunkard will keep a family poor and make them miserable.

One wife that is always telling how fine her neighbors dress and how little she can get, will look pleasanter if she talks about something else.

One husband that is penurious or lazy, and deprives his family of necessary comforts such as their neighbors enjoy, is not as desirable a husband as he ought to be.

One good newspaper is one good thing in every family, and—

One who don't take a good paper [and we add the *VALLEY FARMER*] and pay for it, disregards the best interests of his family.—[*Exchange*.]

[Written for the Valley Farmer.]

SUMMER FLOWERS.

BY MISS MARY A. GARY.

Gather the blossoms,
Cherish the flowers,
That gaily surround thee
In summer's bright hours.

Wreath the fairest garlands
Of buds on thy brow,
Ere the flowers wither
That bloom for thee now!

For summer is passing
And soon will decay
The flowers now diffusing
Their sweets on thy way.

And thus in LIFE's spring-time,
Oh! win for thine own,
The buds of rich beauty
That round thee are strewn.

The bright blossoms gather
Of Faith, Hope and Love,
That richly are blooming
In bowers above,

Ere their fair leaflets
Are touched by the blight,
And Life's summer ended
In Death's wintry night.

BRIGHTON, ILL. May 31st, 1860.

As amber attracts a straw, so does beauty admiration, which only lasts while the warmth continues; but virtue, wisdom, goodness, like the loadstone, never lose their power. These are the true graces, which, as poets feign, are linked hand in hand, because it is by their influence that human hearts are so firmly united to each other.

If a hat is a tile, straw bonnets are thatch.

Editor's Table.

ACKNOWLEDGEMENTS.—The Louisville editor of the "Valley Farmer" tenders his thanks to a number of his editorial brethren for their attention and promptness in forwarding his exchanges to his summer retreat agreeably to request.

Our Trip to Washington and Mt. Vernon, via the Baltimore and Ohio Railroad.

Being one of the two thousand persons residing in the Southern and Western portions of the Union who were invited by the Master of Transportation, W. F. Smith, Esq. of the Baltimore and Ohio Railroad, to join the Editorial Excursion over that road and its Western connections; but not being able to leave until the great body of the excursionists had returned, we had concluded that there would be but little room for us to add anything new by way of description of the grand and sublime scenery through the great "passes" of the Alleghanies and other interesting objects by the way, yet we should hardly do justice to the Western public should we fail to allude to some important improvements adopted, both in the construction and in the management of this road.

Since the introduction of the Rail system into the United States, numerous patented devices have been employed with a view to prevent that constant concussion and jar consequent upon passing the joints of the rails, and all with no satisfactory results. Among the plans adopted for this object was the "Compound Rail," that is, the rails made in two equal parts longitudinally, and so put together as to break joints in the middle, which for a time promised to secure the great end sought; but time soon proved that, notwithstanding the constant and unpleasant commotion common to the ordinary rail was overcome, and a saving in the wear and tear of locomotives and cars was secured, yet the rails, in this form, were found so much more liable to crush under their great pressure than those of the ordinary construction that its use will be no longer continued. But the managers of the Ohio and Baltimore Railroad have made an improvement, which can be applied to any road at comparatively little cost, that entirely overcomes this long-standing difficulty. The ordinary T rail is used, and at each joint a piece of oak 3x4 scantling is firmly bolted to the rails at the joints, extending over three ties, and then bolted to the ties. This renders it impossible for the end of one rail to sink below that of the other, which not only prevents the battering of the rails at the joints, but secures that ease and comfort to passengers that proved so desirable on the first introduction of the compound rail. The Company have caused machinery to be built by which the scantling are worked out with great facility so as to closely fit to the form of the rail, and boring the holes for the bolts at the same time. It appears that this improvement was first adopted for the purpose of increased security by giving greater permanence to the short curves of the road. But other advantages

became so apparent that the same improvement is now being extended over the entire length of the road. We have no doubt that the saving to the rails, and to the rolling stock of the road, to say nothing of the ease and comfort secured to the passengers, will in two years more than equal the cost of applying the timber to the rails; besides, no one can travel over this road without feeling a degree of safety that is not experienced in traveling over rails laid in the ordinary manner, for where the rails are so firmly secured together at the joints there must be less liability to be thrown from the track.

The achievement of engineering skill displayed in the construction of the Baltimore and Ohio Railroad in crossing the abrupt ravines and undulations, and in evercoming the great elevation of the Alleghanies, is not equaled by any similar work in America, if in the world.

In order to gain the popular favor of any particular route of travel, whether by sea or land, the most important requisite is to secure competent and courteous commanders and conductors. This the managers of the O. & B. R. R. seem fully to understand. Our conductors were not only exceedingly attentive to the wants and safety of the passengers, but took special pains to point out to all in every car the various objects of interest along the route; and on approaching the lofty Viaduct on "Cheat River Grade," our conductor stopped his train and invited the passengers to get out and view this grand achievement in railroad architecture. These special qualifications and attentions, we understand, are not confined to an individual conductor, but it is the established policy of the Company to employ only those who possess them.

Of our visit to Mt. Vernon, and many other places of interest, the crowded state of our columns forbids us to detail.

The Weather and the Crops.

The present season has been marked in various sections by some very peculiar meteorological developments. In some portions of Texas and Missouri, and the neighboring States, an unparalleled drought has prevailed since the opening of the present year. So little rain has fallen that wheat and oats where in full head have hardly attained the height of twelve inches, and much of it will not be worth harvesting. Drought also prevails to an unusual extent in the Northern Atlantic States. Besides the early drought in these sections, storms and tornadoes of unusual violence have repeatedly occurred, doing immense damage to property, as well as causing the death of several hundreds of persons.

These storms in some parts of their course were accompanied with hail that seriously damaged the fruit, hemp and other growing crops. The year can hardly be remembered when so many disastrous storms have occurred at so early a period of the season.

But having passed through the country a distance of more than one thousand miles, embracing Kentucky, Ohio, Virginia, Maryland, Delaware, New Jersey and a portion of New York, we find the crops look promising. Wheat has come forward, and in

some instances where it was badly winter killed it has improved remarkably. The fly has been unusually destructive in some sections upon the earliest sown wheat, but it is to be hoped that the extent of country suffering from this cause will not be great. In Western New York wheat has not been more promising for years. The midge, that great enemy of modern times, thus far is less destructive than for any season within the last ten years. We notice, however, in the Western States mentioned, that the wheat heads, even in fields that look otherwise well, are unusually short.

Oats, in all the region over which we have traveled, look in the most flourishing condition, and the growing corn is forward, generally clean, and looks well.

THE CATTLE EPIDEMIC IN MASSACHUSETTS.—This disease is still raging to a fearful extent in Massachusetts, and has extended to other States. A special session of the Legislature of the State has been called to devise ways and means to check its progress, and, if possible, lead to its extinction. Commissioners have been appointed to act in the matter: provision has been made for a scientific investigation, and power given to town authorities to kill or isolate cattle, and make other regulations for the treatment and extirpation of the disease. An appropriation of \$10,000 has been made to defray the expenses.

The disease has broken out in New Jersey, and a meeting of the State Agricultural Society has been held to consider what should be done to check its further progress.

While there is so much traffic in stock throughout the United States, it is greatly to be feared that the disease will become general; and result in a loss of millions of dollars to the country. Active and efficient steps should be taken by the authorities in every State to prevent, if possible, its introduction and spread into districts now exempt. It has been intimated that the contagion has been extended through the agency of dishonest persons by disposing of infected animals to others, in order to avoid the loss, by death, to themselves. Nothing but the most rigorous measures will prevent spreading wide the calamity.

IMMIGRATION OF VINE GROWERS AND FARMERS TO MISSOURI.—Report comes to us from Bremen, that large numbers of industrious vine growers and farmers are leaving that port for Missouri. Several hundred have already landed at St. Louis, and are regarded as the best class of emigrants, such as will add to the wealth and prosperity of the State and country. This influx of industrious laborers from the Old World, is the result of the persevering efforts on the part of the "Farmers' and Vine Growers' Society," who last year dispatched an agent to Germany, with printed books and pamphlets upon the subject of Missouri, as a desirable country for farmers, and particularly for vine growers.

Recent investigations and experience in some portions of the State have shown that in some of the thinner gravelly soils the vine is almost entirely exempt from rot, and that the wine made in those districts is of superior quality. The adaptation of this

State to the culture of the vine has hardly begun to be appreciated. The thousands of acres of land that are of the least value for grain growing, will be found exceedingly productive and profitable when planted to the vine.

NEXT FAIR OF THE UNITED STATES AGRICULTURAL SOCIETY.—It has been determined to hold the Annual Fair of the U. S. Agricultural Society, at Cincinnati, Ohio, in September next. In view of the prevalence of the pleuro-pneumonia among the cattle in some sections of the Union, it is thought advisable not to exhibit that class of stock at the approaching Fair, and consequently increased premiums will be given for horses, agricultural implements, and machines. In order to test thoroughly the machinery to be exhibited, the fair will remain open ten days. It is a very wise and timely consideration in view of the fatal cattle disease, that the exhibition of that class of animals is discouraged.

We rejoice that the efforts to secure the location of the U. S. Fair at Louisville, have failed. The managers of the show grounds near that city demanded the sum of \$5,000 for their use. The limits of their patriotism extended only to the interior of their own pockets. This was the case on a former occasion when the fair was located there. The Hon. President and his officers received but a poor illustration of the boasted hospitality of Kentucky, and were used only as show horses to advance the interest of the "Agricultural and Mechanical Association."

NATIONAL HORSE SHOW AT SPRINGFIELD.—It has been determined by the Board of Managers to hold the Fourth Annual Horse Show at Springfield, Mass., Sept. 4-7, of the present year. The former exhibitions at that place have proved so successful that it is anticipated that the forthcoming display of fine horses will eclipse all former exhibitions held there. Extensive arrangements have been made to accommodate a large number of horses as well as an immense throng of persons.

The Monroe Co. (Ill.) Agricultural Society, will hold its next Fair at Waterloo, on the 16th, 17th, and 18th days of October.

The Franklin Co. (Mo.) fair will be held at Union on the 13th, 14th and 15th of October next—Judge Gale, President; Jas. J. Breckenridge, Secretary.

The Macoupin County (Illinois) Agricultural Society, will hold its next Fair at Carlinville, on the 2d, 3d, 4th, and 5th days of October, 1860.

LIEBIG'S LETTERS ON MODERN AGRICULTURE.—We publish in our present number some remarks from the pen of Dr. Robert Peter, of Lexington, Ky. on the subject of Liebig's Letters. We commend the article of Dr. P. as worthy of the careful consideration of every reader of the "Valley Farmer."

EGGS IN FRANCE.—The French, as well as the English, consume immense numbers of eggs. The yearly consumption of eggs in Paris is estimated at 165,000,000 and the total consumption in all France at 9,000,000,000, so that at the lowest price at which they are sold the number annually consumed in that country is worth 465,000,000 francs.

[Written for the Valley Farmer.]

Notes on the June Number.

NORTH AMERICAN SYLVA.—Under this head in the June number, we find a very interesting sketch of the lives of three men, who distinguished themselves by a life devotion to the study and development of some of the great truths of nature, and to whom we are greatly indebted for a history of the forest trees of our country. Perhaps it would have been better had the writer chosen for his caption, "The Forest Trees of America;" it would have been better understood, and secured a more general reading.

I happened into the house of Farmer A, when he was opening his "Valley Farmer" for June.

"North American Sylva," said he. "What is that about?"

"Trees," said I.

"Oh, some new tree, I suppose."

"No; Trees of America."

"Well, I shall not read that."

And so he passed it over, to find something more interesting or practical. On reading the article after returning home, I could not but regret that neighbor A. had passed it over so carelessly. I am certain that he would have been much interested. The lives of such men as Michaux and Nuttall afford us valuable examples worthy of imitation to a greater or less extent. Examples which should incite us to reflection upon the sordid lives we are pursuing. Those, and those only, who have a love of truth in its broadest sense, and a desire for its pursuit and acquirement, are likely to attain either true happiness or true greatness. Ambition has rarely, if ever, led to either. We should look up to the bright heavens above us, and to the wisdom and beauty of all nature around us.

Here is a good moral, under the guise of a fable, appropriate and well worth repeating:

"A young man once picked up a sovereign in the road. Ever afterwards, as he walked along, he kept his eyes fixed steadily on the ground in hopes of finding another. And, in the course of a long life, he did pick up a goodly number of coins, gold and silver; but all these years while he was looking for them, he saw not that the heavens were bright above him, and nature beautiful around. He never once allowed his eyes to look up from the mud and filth in which he sought the treasure; and when he died a rich old man, he only knew this fair earth of ours as a dirty road in which to pick up money as you walk along."

A STATE BOARD OF AGRICULTURE FOR MISSOURI.—Thank you most heartily, "Old Firkin," for your suggestions. Such an institution is what we greatly need. We have but to look at the almost incalculable benefit derived from them in other States to be convinced of the importance of a similar one for Missouri. We have the St. Louis Fair annually, which is said to be really a State exhibition; and we have several societies composed of large districts of the State, but none of them nor all of them together, accomplish the work that should and might be done by such a State Society as Old Firkin proposes. An amount of valuable agricultural information is distributed by many of the States in their published Transactions, in the shape of Essays, Addresses, Reports, &c. that can be obtained from no other source. The volumes of the New York State Society, for instance, published annually during a period of nearly twenty years, form a library for the farmer of incomparable value. And this is only one item, perhaps among the least, of the good accomplished. Most certainly we should have a State Agricultural Society with aid from the Legislature. When our neighbors are teaching us, by precept and example, it is time that we awaken to action for our own interests. Who will take the initiatory steps? It will not do to say that we are already burdened by our Railroad improvements—the way to make railroads pay, is to improve the country so that they may have enough to do.

TREATMENT OF SWINE.—A truly interesting letter, which deserves to be read and heeded by all our swine breeders. Whatever is worth doing, is worth doing well, should be the motto of every farmer. The vast majority of our farmers greatly neglect their swine.—Turned out to shift for themselves; allowed to breed at any age, and to breed in-and-in for years, we often see miserable, sickly, degenerate land-pikes, limping, dragging a leg or two, or otherwise deformed; and when we reflect that they are destined for human food, the sight becomes sickening—poultrice-fed pork would be preferable!

Could not Mr. McF. (doctor, as he evidently is,) have reasonably added a word against the pork eating propensity of our Western farmers? I do not object to pork eating in toto, provided the article be of good quality; but when it is made the almost exclusive meat of the family from New Year's to Christmas, and finds its place on the table three times a-day at that, the judiciousness thereof may reasonably be questioned. Very many of our farmers are so accustomed to eating hog, that they actually like it better than beef or mutton, and if a man expresses a doubt of its being the best meat in the world, they almost think him a fit subject for Dr. McF.'s hospital.

Prize-fighters, in training for their contests, adopt such a diet as science and experience have proven to be best adapted to the most perfect development of physical health, strength, and endurance. Their principal meat is beef—mutton or chicken occasionally; but, pork—never. If it is not best adapted to physical development, surely no one will presume to claim that it is peculiarly fitted for creating mental vigor.

REVIEWER.

St. Louis County, June 14th, 1860.

HONEY FROM BUCKWHEAT.—The Germans are extensive bee-keepers in their native country. They have made experiments to determine the yield of honey from an acre of buckwheat when in full bloom, and find it equal to fourteen pounds a-day. Buckwheat honey is not as white as that made from white clover, but many persons prefer its flavor to that made from any other plant. Buckwheat comes in after most other plants cease to yield a supply of honey; it would be well, then, for every bee-keeper to sow an acre or two of buckwheat every year. It makes good honey for home use, and answers an excellent purpose in affording a supply of honey for the bees of late swarms, as well as food for immediate consumption, and thus saves their stock already laid in.

To New Subscribers.—The question, Have you back numbers of the "Valley Farmer," with which to fill the orders of new subscribers? has, by a subscriber and correspondent, been asked. In reply, we can say we are very happy to inform all, that we have an abundant amount of each number from January last, and will gladly remit them to those who may wish to enter their names upon our subscription list.

To VINE GROWERS.—At the recent annual meeting of the Missouri Fruit Growers' Association, a committee was appointed to collect information in regard to grapes grown in the State; to visit the vineyards in the proper season; and to report particulars concerning them in detail.

Persons having vineyards, or being engaged in the growth of the grape, will greatly assist said committee in their inquiries by forwarding their names and P.O. address, so as to enable said committee to visit as many as possible, and in particular to note if the rot appears, the date and symptoms of its appearance, &c. and communicate such information to

WILLIAM MUIR, Sec
Laborville, Melrose P.O. St. Louis Co., June 8, 1860.

GRENADA, MISSISSIPPI, June 10th, 1860.

EDS. VALLEY FARMER: In looking over the pages of the "Valley Farmer," I see many Agricultural Implements advertised for sale, their many superior qualities described, and orders solicited: but not one word said about the price—a very important omission. Among others, I notice a Seed Sower, a Reaper and Mower, a Horse Rake for gathering up the grain and hay, and a Thresher and Cleaner, all of which are much needed here, and I intend to have them—the Seed Sower this Fall, and the others next season. But we of the South have been so grossly imposed upon, both in the article, price, and freights, that I have determined not to order anything in future until I know both the price and freights: and I think there are many in the South like myself.

If the prices were given, we would be better able to judge whether our business will justify the purchase. We could see R.R. Agents and learn the freights. And when our orders went out well recommended and indorsed, we could form an approximate estimate of what we would have to pay.

Would it be consistent for the owners or patentees to give their prices, &c. in the "Valley Farmer."—[Of course it would! **Eds. V.F.**] Yours, &c.

T. H.

LITERARY NOTICE.—One of the most interesting and useful publications which comes to our sanctum is the **SCIENTIFIC AMERICAN**, a weekly publication, devoted to popular science, new inventions, and the whole range of mechanic and manufacturing arts. The **Scientific American** has been published for fifteen years, by the well-known Patent Solicitors, **Messrs. MUNN & Co.** 37 Park Row, New York; and has yearly increased in interest and circulation, until it has attained, we understand, nearly 30,000 subscribers, which is the best evidence that the publication is appreciated by the reading public.

To those of our readers who may not be familiar with the character of the paper, we will state some of the subjects of which it treats. Its illustrated descriptions of all the most important improvements in steam and agricultural machinery, will commend it to the Engineer and Farmer, while the new household inventions and shop tools which are illustrated by engravings and described in its columns, with the practical receipts contained in every number, render the work desirable to housekeepers, and almost indispensable to every mechanic or smith who has a shop for manufacturing new work, or repairing old.

The **SCIENTIFIC AMERICAN** is universally regarded as the inventor's advocate and monitor; the repository of American inventions, and the great authority on law, and all business connected with Patents. The Official List of Claims, as issued weekly from the Patent Office, in Washington, are published regularly in its columns. All the most important Patents issued by the United States Patent Office are illustrated and described on its pages, thus forming an unrivalled history of American inventions.

It is not only the best, but the largest and cheapest paper devoted to Science, Mechanics, Manufactures, and the Useful Arts published in the world. **HON. JUDGE MASON**, formerly Commissioner of Patents, is not only engaged with the publishers in their immense Patent Agency department, but as a writer on Patent Laws and Practice, his ability is forcibly portrayed in the columns of this paper.

The **SCIENTIFIC AMERICAN** is published once a week, (every Saturday) each number containing 16 pages of Letterpress, and from 10 to 12 original Engravings of New Inventions, consisting of the most improved Tools, Engines, Mills, Agricultural Machines and Household Utensils, making 52 numbers in a year, comprising 832 pages, and over 500 Original Engravings, printed on heavy fine paper, in a form expressly for binding, and all for \$2 per annum.

A New Volume commences on the 1st of July, and we hope a large number of our readers will avail

themselves of the present opportunity to subscribe. By remitting \$2 by mail to the publishers, **MUNN & Co.** 37 Park Row, New York, they will send you their paper one year, at the end of which time you will have a volume which you would not part with for treble its cost. The publishers express their willingness to mail a single copy of the paper to such as may wish to see it, without charge.

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Louisville Glass Works.

Such is the demand for the Glassware manufactured at the Louisville Glassworks the present season, that the proprietors have resolved on continuing the manufacture throughout the summer. This is rendered necessary to supply the increasing demand for fruit jars, in addition to the other articles manufactured. These jars are of various sizes and styles. Besides the ordinary jars, we are manufacturing two new styles of self-sealing jars, that are instantly closed and rendered perfectly air-tight without the use of corks or wax. The whole process is so simple that any person can perform the work. Our jars are made with strong and substantial necks, which, with the improved method of closing, render them the most economical fruit jars now in use.

All orders for jars and other glassware, such as Bottles, Flasks, Vials, &c. should be addressed to

KRACK, STANGER & CO.
July, '60—3t. Louisville, Ky.